MASS APPRAISAL
GUIDEBOOK

A Supplement to the Manual on Real Property Appraisal and Assessment Operations

With Expanded Discussions on Special Purpose Properties, and Plant, Machinery & Equipment

[Online Edition]

DEPARTMENT OF FINANCE
BUREAU OF LOCAL GOVERNMENT FINANCE

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Appraisal and Assessment Operations

*With Expanded Discussions
on Special Purpose Properties,
and Plant, Machinery & Equipment*

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April 2010

Bureau of Local Government Finance
DEPARTMENT OF FINANCE

MASS APPRAISAL GUIDEBOOK (Online Edition)

A Supplement to the Manual on Real Property Appraisal
and Assessment Operations

With Expanded Discussions on Special Purpose Properties,
and Plant, Machinery & Equipment

DEPARTMENT ORDER No. 10-2010
28 April 2010

SUBJECT: Prescribing the "Mass Appraisal Guidebook: A Supplement to the Manual
              on Real Property Appraisal and Assessment Operations (with Expanded
              Discussions on Valuation of Special Purpose Properties and Plant,
              Machinery & Equipment)"

TO: All Regional Directors of the Bureau of Local Government Finance,
              Provincial, City and Municipal Assessors and other concerned DOF agencies.

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WHEREAS, Section 201 of the Local Government Code of 1991 and Article 291 of its Implementing Rules and Regulations (IRR) provide that the Department of Finance (DOF) shall promulgate the necessary rules and regulations for the classification, appraisal and assessment of real property;

WHEREAS, Sections 33 (1) and (2) under Title II of Executive Order No. 292, series of 1987, otherwise known as the "Administrative Code of 1987" provide that the Bureau of Local Government Finance (BLGF) shall "assist in the formulation and implementation of policies on local government revenue administration and fund management", and "exercise administrative and technical supervision and coordination over treasury and assessment operation of local governments";

WHEREAS, pursuant to the abovementioned mandate, the DOF issued Department Order No. 1-04 (October 2004) prescribing the "Manual on Real Property Appraisal and Assessment Operations", hereinafter referred to as the "Manual", for appraisal and assessment of real property by local government assessors;

WHEREAS, the Philippine Government, through the DOF, the BLGF and the National Tax Research Center (NTRC), is implementing reforms in real property valuation and taxation under Component 4 of the Second Land Administration and Management Project (LAMP2), which aims to "improve the quality of government and private sector appraisal performance through the adoption of uniform valuation standards and a single valuation base for taxation", "pursue property taxation reforms", and "lay the foundation through education and training for the future expansion of property valuation and appraisal activities";

WHEREAS, the DOF issued Department Order No. 37-09 (September 2009) prescribing the "Philippine Valuation Standards (1st Edition) - Adoption of the IVSC Valuation Standards under

Philippine Setting" to raise the quality of public and private sector valuation at par with international standards and best practices, and promote transparency and reliability of valuations for various uses, e.g., taxation, disposal of government assets, financial reporting, secured lending, transfers of ownership, litigation, etc., among others;

WHEREAS, as a result of the comprehensive simulation studies in pilot local government units (LGUs), and the extensive research and in-depth workshops with LGU appraisal experts on the subject matter, additional and new instructional materials for local appraisal are required to adapt, operationalize and comply with the PVS, and incorporate the use of modern information systems and resources to reflect national laws, policies, rules, and regulations under Philippine conditions;

WHEREAS, provision of replacement material for Chapters III and IV of said Manual, by expanding the technical discussions and contents of said chapters in the form of a guidebook, is deemed necessary to advance the real property appraisal/valuation processes, particularly in the development of the Schedule of Market Values (SMV) by the local governments for local taxation purposes, and therefore achieve the objectives of the LAMP2 project.

NOW THEREFORE, the following are hereby issued:

Section 1. Chapters III and IV of the Manual are replaced with the "Mass Appraisal Guidebook: A Supplement to the Manual on Real Property Appraisal and Assessment Operations (with Expanded Discussions on Valuation of Special Purpose Properties, and Plant, Machinery & Equipment)", hereinafter referred to as the "Guidebook".

Section 2. The Guidebook shall be adopted by all local government assessors and other DOF agencies undertaking mass appraisal of real property for taxation purposes;

Section 3. The Guidebook shall be adopted as an enhancement and replacement of Chapters III and IV, thus effectively becoming integral part of Local Assessment Regulations No. 1-04, the Manual, and other relevant issuances by the Department;

Section 5. This Department Order supersedes all other Orders issued which are inconsistent herewith, and shall be effective immediately;

Section 6. Accordingly, Regional Directors, Provincial, City and Municipal Assessors, and other concerned DOF agencies, are hereby enjoined to properly, efficiently, and strictly implement the provisions of the Guidebook.

MARGARITO B. TEVES
Secretary

Republic of the Philippines
DEPARTMENT OF FINANCE
Roxas Boulevard corner Pablo Ocampo, Sr. Street
Manila 1004

MESSAGE

Revenue generation is one of the core thrusts of the DOF in line with the implementing objectives and core commitment of the Philippine government in alleviating poverty through sustainable reforms in land administration and management. The demand for efficient revenue mobilization mechanisms requires sound policies and strategies in augmenting the capacities of local government units to increase income from local sources. One notable undertaking of the DOF is the equitable raising of real property-based revenue by government through efficient and effective and transparent valuation and taxation systems. LGUs require a solid revenue base for which the local fiscal governance is anchored, and real property offers the biggest source of local income on having a reliable and transparent valuation system.

This "Mass Appraisal Guidebook: A Supplement to the Manual on Real Property Appraisal and Assessment Operations with Expanded Discussion on Special Purpose Properties, and Plant, Machinery and Equipment" is a product of the Second Land Administration and Management Project (LAMP2), by which the Government has made long-term commitments to broad programs of reform in the appraisal industry, with particular focus on mass appraisal for local government taxation purposes. This Guidebook supports the Manual on Real Property Appraisal and Assessment Operations (1996) as produced by the Department of Finance in 1991, and updates the technical appraisal material in the Manual.

In October 2009, the DOF issued Department Order No. 37-09 prescribing the Philippine Valuation Standards (1st Edition) with the objective of raising the quality of public and private sector valuations in line with international standards and best practices. This Guidebook is a progression from these Standards and provides for the operationalization and practical application of the Philippine Valuation Standards in the interest of LGU mass appraisal for taxation purposes.

The Mass Appraisal Guidebook is a living document -- open to adopt relevant technologies based on developments in the discipline and professional practice of valuation. This Guidebook will be a vital instrument for local governments in their quest for sustainable revenue generation, especially for the professionalized corps of assessors and local government appraisers who now assume a broader role in achieving local fiscal governance.

MARGARITO B. TEVES
Secretary

MESSAGE

I am pleased to introduce this "Mass Appraisal Guidebook: A Supplement to the Manual on Real Property Appraisal and Assessment Operations with Expanded Discussion on Special Purpose Properties". This Guidebook has come about as result of the need to provide more technical information and discussions on mass appraisal process for local governments, thereby expanding the Manual on Real Property Appraisal and Assessment Operations, also known as the "Assessor's Mnual" produced by the Bureau of Local Government Finance (BLGF) in 2004. This is a timely and essential reference guide especially as we pursue the professionalization of the assessment service in the LGUs pursuant to Republic Act No. 9646, otherwise known as the Real Estate Service Act.

This Guidebook is part of a program of the Department of Finance (DOF) under the Second Land Administration and Management Project (LAMP2) to provide more support to valuations in local governments and assist them in arriving at a better market-based valuation on which to base real property tax. This program has also resulted in the development of the Philippine Valuation Standards, the design and production of the Valuation Database and Information System (VDIS), the provision for valuation education program and trainings, among others. These developments have drawn on the research and outcomes of substantial simulation and pilot activities undertaken within LAMP2.

For various reasons, many LGUs have struggled to provide current and/or market-based valuation. The materials in this Guidebook, including many examples, will greatly assist local assessors with a step forward. All readers and participants are encouraged to absorb the knowledge and embrace the changes that are put forward in the reforms for a more thorough and correct valuation in the LGUs. It is important that assessors translate this knowledge into a market-based SMV that is current and correct to help their LGUs in their revenue generation. A reliable and well-substantiated local government valuation base will allow other organizations to have greater trust in the LGU valuations, and it will also contribute to a better and more transparent property market – itself being a major contributor to the Philippines economy.

In endorsing this Guidebook, I acknowledge all the organizations and individuals involved in this important undertaking. In particular, I thank the Australian Agency for International Development (AusAID) for the technical assistance and the World Bank for the funding support. The management and staff of the BLGF, the National Tax Research Centre (NTRC), the assessor-members and advisers of the Technical Working Group, and the project staff of LAMP2 Component 4 are also commended for their enthusiasm and effort, and most importantly for the valuable contribution of expertise and time in the production of this Guidebook.

MA. PRESENTACION R. MONTESA, CESO III
Executive Director

TABLE OF CONTENTS

TABLES, FIGURES and APPENDICES

FIGURES

APPENDICES

GLOSSARY OF TERMS

This Glossary is a compilation of terminologies adopted from the Local Government Code of 1991, the *Manual on Real property Appraisal* and *Assessment Operations (MRPAAO)*, the *Philippine Valuation Standards (PVS), Republic Act No. 9646 (Real Estate Service Act)* and from general appraisal practice. In particular cases of appraisal activity, reference should be made to appropriate legislation, and specific definitions and provisions contained in that legislation.

Acquisition Cost - generally refers to the cost of purchasing an item or property. In reference to Plant, Machinery and Equipment for newly-acquired machinery not yet depreciated and appraised within the year of its purchase, it refers to the actual cost of the machinery to its present owner, plus the cost of transportation, handling, and installation at the present site. The cost may also include freight and insurance charges, brokerage, customs duties and taxes.

Actual Use - refers to the purpose for which the property is principally or predominantly utilized by the person in possession thereof. For RPT purposes, Actual Use should not be construed as a limiting factor in the basis for classifying and valuating the property, but as a determining factor in establishing the assessment level in order to set the taxable value.

Agricultural Lands - lands devoted principally to the planting of trees, raising of crops, livestock and poultry, dairying, salt making, inland fishing and similar aqua-cultural activities, and other agricultural activities, (and is not classified as Mineral, Timber, Residential, Commercial and Industrial land - *Implementing Rules and Regulations of the Local Government Code of 1991*).

Appraisal/Valuation - is the act or process of estimating the value of a property as of a specific date for a specific purpose. It is an estimate or opinion of value, usually market value or value as defined by the appraiser. It is made as of a specific date and is a conclusion which results from a logical and orderly analysis of facts.

Appraiser/Valuer - one who conducts appraisals; specifically, one who possesses the necessary qualifications, ability and experience to execute or direct the appraisal of real or personal property.

Arm's Length Transaction - a transaction freely arrived at in the open market, unaffected by abnormal pressure or by the absence of normal competitive negotiation as might be true in the case of a transaction between related parties.

Assessed Value - a value which is based upon definitions contained within applicable laws relating to the assessment, rating, and/or taxation of property. It is the market value of the real property multiplied by the assessment level. It is synonymous to taxable value.

Assessment - is the act or process of estimating the value of a property, or proportion thereof subject to tax, including the discovery, listing, classification, and appraisal of properties.

Assessment Level - is the percentage applied to the market value to determine the taxable value of the property.

Assessor - refers to an official in the local government unit, who performs appraisal and assessment of real properties, including plants, equipment, and machineries, essentially for taxation purposes. This definition also include assistant assessor.

Auction Price - the price that is the final accepted bid at a public auction; may or may not include any fees or commissions.

Basis of Value - a statement of the fundamental measurement principles of a valuation on a specified date.

Benchmark - is a reference point from which the value of other similar properties is measured or tested. To be consistent in determining the quality level of construction, quality class benchmarks for class, age and type of structure should be established.

Buildings - are permanent structures adhered to the land, usually used for habitation, commercial and industrial purposes and for other various uses and not mere superimpositions on the land like a '*barong-barong*' or temporary fixtures.

Bundle of Rights - is the combination of rights associated with the ownership of real property, e.g., the right to use, to sell, to lease, to give away, or to choose to exercise all or none of these rights.

Capitalization - at a given date, the conversion into the equivalent capital value of net income or a series of net receipts, actual or estimated, over a period. In business valuation, the term refers to the capital structure of a business entity. In business valuation, this term also refers to the recognition of expenditure as a capital asset rather than a periodic expense. Method of arriving at the value of a property by reference to net returns and an expected percentage yield or return. In some countries, capitalization refers to the conversion of a stream of income into capital value using a single conversion factor.

Capitalization Factor/ Capitalization Rate - any multiple or divisor used to convert income into capital value. It is the actual mathematical relationship between the annual financial

return a property generates, and the capital value of that property. Generally expressed as a percentage. May be calculated on the gross or net return, but should be specified as to which.

Carport - an open-sided roofed automobile shelter that is usually formed by an extension of the roof from the side of a building.

Cash Flow - the actual or estimated periodic net income produced by the revenues and expenditures/outgoings in the operation of an income producing property.

Cemetery - an area or place where the dead are buried, a place of burial set apart either by municipal authority or private enterprise for the internment of the dead, etc., and this includes whatever property is necessary for use of the cemetery such as paths, ornamentation and the land within the cemetery limits acquired for but not yet actually used for the burial of the dead.

Commercial Land - is land set aside or devoted principally for the object of profit and is not classified as agricultural, industrial, mineral, timber, or residential land.

Commercial Property - is property devoted principally for the object of profit and is not classified as agricultural, industrial, mineral, timberland, or residential property. For the purposes of this handbook, it refers to office and related activities, as well as retail uses.

Comparable Data - data generally used in a valuation analysis to develop a value estimate; comparable data relates to properties the characteristics of which are similar to those of the property being valued (the subject property). Such data include sales prices, rents, income and expenses, and market derived capitalization and yield/discount rates.

Comparable Sales Method (Market or Direct Market Comparison Method) - See *Sales Comparison Approach.*

Contractor's Method - See *Cost Approach.*

Cost - the price paid for goods or services becomes its cost to the buyer**.** It is the amount required to create or produce the good or service. Cost is a production-related concept, distinct from exchange. Once the good is completed or the service is rendered, its cost becomes an historic fact. The total cost of a property includes all direct and indirect costs of its production. See *also Price, Value.*

Cost Approach - one of the approaches to value commonly applied in Market Value estimates and many other valuation situations. Cost Approach is also known as 'Replacement Cost' or 'Reproduction Cost' less depreciation, and sometimes the 'Contractors Method'. Under

this approach to value, the land is appraised as vacant. The land value is then added to the depreciated cost of the improvements to arrive at an indication of value. It is based on the "Principle of Substitution".

It is a comparative approach to the value of property or another asset that considers, as a substitute for the purchase of a given property, the possibility of constructing another property equivalent to the original or one that could furnish equal utility with no undue cost resulting from delay. The Valuer's estimate is based on the replacement cost of the subject property or asset, less total (accrued) depreciation.

The cost approach establishes the value of a real property by estimating the cost of acquiring land and building a new property with equal utility or by adapting an old property to the same use with no undue cost due to delay. An estimate of entrepreneurial incentive or developer's profit/loss is commonly added to land and construction costs. For older properties, the cost approach develops an estimate of depreciation including items of physical deterioration and functional obsolescence. See *also Depreciated Replacement Cost, Depreciation, Replacement Cost, Reproduction Cost.*

Crop(ping) Farms - agricultural properties used for growing commodities that are typically planted and harvested within a twelve-month cycle. Properties used for annual crop production may grow more than one type of annual crop over the same period, and may or may not make use of irrigation to produce the crops. Some commodities are annual crops that may be left in the ground beyond a twelve-month cycle, per contract provisions or in circumstances where market conditions are unfavorable. These crops will last for more than one year after harvest but are considered less than permanent.

Depreciated Replacement Cost - an application of the cost approach used in assessing the value of specialized assets where direct market evidence is limited or unavailable. The current cost of replacing an asset with its modern equivalent asset less deductions for physical deterioration and all relevant forms of obsolescence and optimization. See also *Cost Approach.*

Depreciation - in the context of asset valuation, depreciation refers to the adjustments made to the costs of reproducing or replacing the asset to reflect physical deterioration and functional (technical) and economic (external) obsolescence in order to estimate the value of the asset in a hypothetical exchange in the market when there is no direct sales evidence available.

It is the total loss or drop in value of an asset (usually a building or other improvement) from new as a result of physical deterioration and/or obsolescence.

Depreciated Value - is the value remaining after deducting depreciation from the replacement cost.

Direct Comparison Approach - the process of valuation wherein one property (to be valued) is compared as directly as possible with properties of a similar nature that have been sold at or around the appropriate date. Where properties are almost identical, there may not be a need to make many adjustments to the sale prices to allow comparison with the subject property.

Discount Rate - a rate of return (expressed as a percentage) used to convert a monetary sum, payable or receivable in the future, into present value. Theoretically, it should reflect the opportunity cost of a capital, i.e., the rate of return the capital can earn if put to other uses having similar risk.

Discounted Cash Flow (DCF) Analysis - a financial modeling technique based on explicit assumptions regarding the prospective cash flow (income and expenses) to a property or business. As an accepted methodology within the income approach to valuation, DCF analysis involves the projection of a series of periodic cash flows either to an operating property, a development property, or a business. To this projected cash flow series, an appropriate market-derived discount rate is applied to establish an indication of the present value of the income stream associated with the property or business.

In the case of operating real properties, periodic cash flow is typically estimated as gross income less vacancy and collection losses and less operating expenses. The series of periodic net operating incomes, along with an estimate of the reversion/terminal value/exit value, anticipated at the end of the projection period, is then discounted.

In the case of development properties, estimates of capital outlays, development costs, and anticipated sales income are estimated to arrive at a series of net cash flows that are then discounted over the projected development and marketing periods. In the case of business, estimates of periodic cash flows and the value of the business at the end of the projection period are discounted. The most widely used applications of DCF analysis are the Present Value (PV), or Net Present Value (NPV), and the internal rate of return (IRR) of cash flows.

Easement - a non-possessory (incorporeal) interest in landed property conveying use, but not ownership, of a portion of that property. Effectively a right of use by one property over (usually) an adjoining property, or perhaps a right by a statutory authority over land for access or purpose of public works (e.g., to lay water pipes to serve other properties). See *also Rights of Way.*

Economic Life - is the estimated period over which a building or machinery is anticipated to be profitably utilized.

Economic Obsolescence - See *External Obsolescence.*

External Obsolescence - a loss in value due to factors outside the subject property. External obsolescence is also called economic, environmental or locational obsolescence. Examples of external obsolescence are changes in competition or in the nature of surrounding land uses whereby a previously economic or worthwhile building or use ceases to have the value it had under former circumstances. For example, a house building will likely drop in value if in an area that is becoming increasingly industrial, the benefit of the house (and thus the value added by the house) reduces, then the closer the likely date that the property will be converted to industrial use becomes. It is deemed incurable as the expense to cure the problem is impractical, and outside the control of the property.

Extraction Method - this method is the procedure whereby (either) the land or improvements value can be determined by deducting (extracting) the value of a known component (either land or improvements) from the total sale price or value, to provide a remaining amount, which is then deemed to be the value of the unknown component. (e.g., Sale price less known land value = value of improvements, *or* sale price less value of improvements = land value).

Fee Simple (Estate) - absolute ownership subject only to limitations imposed by the country; also called a freehold.

Forced Sale - a circumstance where a seller is under compulsion to sell and/or a proper marketing period is not available. The price obtainable under these circumstances will not meet the definition of Market Value. Rather the price obtainable will depend on the nature of the pressure on the seller or the reasons why proper marketing cannot be undertaken. The price may also reflect the consequences for the seller of failing to sell within a specified period.

The price obtainable in a forced sale typically cannot be predicted, but will reflect the particular circumstances of the forced sale rather than a hypothetical exchange where the seller is acting without compulsion and/or the transaction occurs after a proper marketing period.

Freehold - absolute ownership subject to limitations imposed by the country; also known as a fee simple estate. An estate held for perpetuity.

Freehold Interest - a fee simple estate, representing the perpetual ownership in land.

Functional Obsolescence - a loss in value within a structure due to changes in tastes, preferences, technical innovations, or market standards. Functional obsolescence includes excess capital costs and excess operating costs. It may be curable or incurable. Also called Technical Obsolescence.

Going Concern - the entity is normally viewed as a going concern, that is, as continuing in operation for the foreseeable future. It is assumed that the entity has neither the intention nor the necessity of liquidation or of curtailing materially the scale of its operations. An operating business. Going concern also serves as a valuation premise, under which Valuers and accountants consider a business as an established entity that will continue in operation indefinitely.

Going Concern Value - See *Value in Use*.

Goodwill - an intangible but marketable asset based on the probability that customers will continue to resort to the same premises where the business is carried on under a particular name, or where goods are sold or services provided under a trade name, with the continuing prospect of earning an acceptable profit is likely. Goodwill may include two distinct components; goodwill that is property specific, or inherent within the property and transferable to a new owner on sale of the property, and personal goodwill that is associated with the proprietor or manager. (In such case, the goodwill element will be extinguished upon sale of the property as the management would move elsewhere).

Ground Lease - usually long-term lease or land wherein the lessee is permitted to improve or build on the land and to enjoy those benefits for the term of the lease.

Head lease or Master Lease - a lease to a single entity that is intended to be the holder of subsequent leases to sub-lessees who will be the tenants in possession of the leased premises.

Highest and Best Use (HABU) - the most probable use of a property which is physically possible, appropriately justified, legally permissible, financially feasible, and which results in the highest value of the property being valued. See *also Market Value.*

Horticultural Land - is land devoted to or cultivated for planting of vegetables, flowers and other ornamental plants.

Improvements - buildings, structures, or some modifications to land, of a permanent nature, involving expenditures of labor and capital, intended to enhance the value or utility of the property. Improvements have differing patterns of use and economic lives. It is a valuable

addition made to a property or an amelioration in its condition, amounting to more than a mere repair or replacement of parts involving capital expenditures and labor which is intended to enhance its value, beauty or utility to adapt it for new or further purposes. The benefits of the improvements should not have expired at the time of valuation.

Improvements can be considered as visible improvements (buildings and other structures, roads, footpaths etc.) and invisible improvements (such as drainage, landscaping or other input of labor and material that merges with the land).

Income (Capitalization) Approach - a comparative approach to value that considers income and expense data relating to the property being valued, and estimates capital value through a 'capitalization' process involving an expected rate of return on the funds employed. Capitalization relates income (usually net income) and a defined value type by converting an income amount into a value estimate.

This process may consider direct relationships (whereby an overall capitalization rate or all risks yield is applied to a single year's income), yield or discount rates (reflecting measures of return on investment) applied to a series of incomes over a projected period, or both. The income approach reflects the principles of substitution and anticipation.

Income Multiplier or Years' Purchase - the ratio between the sale price or value of a property and the average annual income or income expectancy; may be based on gross or net income. It is applied to income to arrive at a capital value. See *also Capitalization Factor, Investment Method.*

Industrial Land – is land devoted principally to industrial activity as capital investment and is not classified as agricultural, commercial, timber, mineral or residential land.

Internal Rate of Return (IRR) - the discount rate that equates the present value of the net cash flows of a project to the present value of the capital investment. It is the rate at which the Net Present Value (NPV) equals zero. The IRR reflects both the return on the invested capital and the return of the original investment, which are basic considerations of potential investors. Therefore, deriving the IRR from analysis of market transactions of similar properties having comparable income patterns is a proper method for developing market discount rates for use in valuations in order to arrive at Market Value. Used in discounted cash flow analysis to find the implied or expected rate of return of the project, the IRR is the rate of return which gives a zero NPV.

Investment Method - a valuation procedure that capitalizes expected future income or utility as a basis for estimating the Market Value of the subject asset. The underlying assumption is that one investor will pay no more for the subject asset than would have to be paid for another asset with an income stream of comparable amount, duration, and certainty. See *also Income Capitalization Approach.*

Irrigated Land - lands used to produce crops or forage for livestock which require the application of water other than that from natural rainfall; also called irrigated crop(ping) farms or irrigated grazing land. Properties that lack a water source other than natural rainfall are referred to as dry land agricultural properties.

Land - the earth's surface. Theoretically, land can include the space beneath the surface which extends to the centre of the earth, and the space above which extends to the sky. Valuation of land as if vacant, and of land and improvements to or on the land, is an economic concept. Whether vacant or improved, land is also referred to as real estate. The ownership of land and the rights attached to the ownership are subject to the laws of a particular country.

Land Use - refers to the manner of utilization of land, including its allocation, development and management.

Lease - a contract arrangement in which rights of use and possession are conveyed from a property's title owner (called the landlord, or lessor) in return for a promise by another (called a tenant or lessee) to pay rents as prescribed by the lease. In practice, the rights and the duties of the parties can be complex, and are dependent upon the specified terms of their contract.

It is an agreement whereby the lessor conveys to the lessee, in return for a payment or series of payments, the right to use an asset for an agreed period of time.

Lease Interest - also known as Lessee Interest, Tenant's Interest, or Leasehold Estate. It is the ownership interest that is created by the terms of a lease rather than the underlying rights of real estate ownership. The lease interest is subject to a specific lease arrangement, expires within a specified time, and may be capable of subdivision, or subleasing to other parties.

Leasehold Improvements or Tenant's Improvements - fixed improvements or additions to land or buildings, installed by and paid for by the tenant to meet the tenant's needs; typically removable by the tenant upon expiration of the lease; removal causes no material damage to the real estate.

Machinery - machines, equipment, mechanical contrivances, instruments, appliances or apparatus which may or may not be attached permanently or temporarily to the real property. It includes the physical facilities for production, the installations and appurtenant service facilities, those which are mobile, self-powered or self-propelled, and those not permanently attached to the real property which are actually, directly and exclusively used to meet the needs of the particular industry, business or activity and which by their very nature and purpose are designed for, or necessary to its manufacturing, mining, logging, commercial, industrial or agricultural purposes, without which such industry or facility cannot function.

Note that machinery which is of a general purpose use such as typewriters, computers, facsimile machines, refrigerators, display racks, drink dispensing machines, microwave ovens etc., as well as hand tools are not considered machinery for RPT purposes. Refer also to *Chapter 5: Plant, Machinery and Equipment* for discussion.

Market Data Approach - is also known as the Comparative or Comparable Sales Approach. This is an appraisal procedure in which the market value estimate is predicated upon prices paid in actual market transactions and current listings. It is a process of analyzing sales of similar sold properties (sold at or around the relevant date) in order to derive an indication of the most probable sale prices of the property being appraised. The reliability of this technique is dependent upon: a) the availability of comparable sales data; b) the verification of the sales data; c) the degree of comparability or extent of adjustment necessary for time differences; and d) the absence of non-typical conditions affecting the sales price.

Market Rent - the estimated amount for which a property, or space within a property, should lease on the date of valuation between a willing lessor and a willing lessee on appropriate terms in an arm's-length transaction, after proper marketing wherein the parties had each acted knowledgeably, prudently and without compulsion. Whenever Market Rent is provided, the "appropriate lease terms" for which it reflects should also be stated.

Market Value - the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion.

Mass Appraisal - the practice of appraising multiple properties as of a given date by a systematic and uniform application of appraisal methods and techniques, employing common data that allow for statistical review and analysis of results.

Memorial Parks - are lands exclusively used as burial ground and developed for profit.

Mineral Lands - are lands in which minerals, metallic or non-metallic, exist in sufficient quantity or grade to justify the necessary expenditures to extract and utilize such materials.

Mortgage - a pledge of an interest in property as security or collateral for repayment of a loan with provision for redemption on repayment. In the event the borrower (mortgagor) defaults, the lender (mortgagee) has the power to recover the property pledged.

Net Present Value (NPV) - the measure of the differences between the discounted revenues, or inflows, and the costs, or outflows, in a discounted cash flow analysis.

Non-Profit Cemetery - is a cemetery owned and operated by the government, by religious corporations, by associations and societies exclusively for its members and not for profit. In the case of a cemetery or a memorial park which is privately owned, developed and operated for profit, such shall be classified as commercial. However, lots/plots already in the name of the buyer and/or already actually used as burial grounds shall likewise be assessed and classified as commercial but considered exempt.

Obsolescence - a loss in value due to a decrease in the usefulness of property caused by decay, changes in technology, people's behavioral patterns and tastes, or environmental changes. Obsolescence is sometimes classified according to items of outmoded design and functionality, items with structural design unable to meet current code requirements, and factors arising outside the asset, such as changes in user demand. Refer also to Depreciation.

Orchard - is land specifically devoted to various fruit trees and plants.

Outgoings - those expenses necessarily incurred in managing and maintaining a rental or investment property. Outgoings are deducted from the gross rent to arrive at net rent.

Plant, Machinery and Equipment - tangible assets, other than realty, that are held by an entity for use in the production or supply of goods or services, for rental to others, or for administrative purposes; and are expected to be used over a period of time.

The categories of plant, machinery and equipment are:

Plant: Assets that are inextricably combined with others and that may include specialized buildings, machinery and equipment.

Machinery: Individual machines or a collection of machines. A machine is an apparatus used for a specific process in connection with the operation of the entity.

Equipment: Other assets that are used to assist the operation of the enterprise or entity.

Tangible items that:
  a) are held for use in the production or supply of goods or services, for rental to others, or for administrative purposes, and
  b) are expected to be used during more than one (accounting) period.

Present Value - See *Net Present Value.*

Price - an amount asked, offered, or paid for a good or service. The concept of price relates to the exchange of a commodity, good or service. Price is the amount asked, offered, or paid for the item. Once the exchange has been transacted, the price, whether disclosed or undisclosed, becomes an historic fact. The price paid represents the intersection of supply and demand. See *also Cost, Value.*

Principle of Substitution - a prudent person will not pay more for a good or service than the cost of acquiring an equally satisfactory substitute good or service, in the absence of the complicating factors of time, greater risk, or inconvenience. The lowest cost of the best alternative, whether a substitute or the original, tends to establish Market Value. This principle is fundamental to the three approaches to Market Value.

Property - a legal concept encompassing all the interests, rights and benefits related to ownership.

Property consists of the private rights of ownership, which entitle the owner to a specific interest or interests in what is owned. To distinguish between real estate, a physical entity, and its ownership, a legal concept, the ownership of real estate is called real property. Ownership of an interest in an item other than real estate is referred to as personal property.

The International Valuation Standards Council recognizes the following four property types: (1) real property, (2) personal property, (3) businesses and (4) financial interests.

Rate of Return - an amount of income generated by an investment , expressed as a percentage of the cost (or value) of the investment.

Real Estate - land and all things that are a natural part of the land, e.g., trees and minerals, as well as all things that are attached by people, e.g., buildings and site improvements. All permanent building attachments such as plumbing, heating and cooling systems; electrical wiring; and built-in items like elevators, or lifts, are also part of the real estate in general terms, although elevators may be assessed separately for RPT purposes. Real estate includes all attachments, both below and above the ground. See *also Improvements, Land, Real Property.*

Real Property - all the rights, interests, and benefits related to the ownership of real estate. Real Property is a legal concept distinct from real estate, which is a physical asset. There may also be potential limitations upon ownership rights to real property. See *also Property, Real Estate.*

Realty - a term used to distinguish either real property or real estate from items of personal property.

Reassessment - is the assigning of new assessed value to property, particularly real estate, as the result of a general, partial, or individual reappraisal of the property.

Reclassification of Agricultural Lands - refers to the act of specifying how agricultural lands shall be utilized for non-agricultural uses such as residential, commercial or industrial,

as embodied in the land use plan, subject to the requirements and procedures for land use conversion. It also includes the reversion of non-agricultural lands to agricultural use.

Remaining Economic Life - is the period of time expressed in years from the date of appraisal to the date when a machinery or building/improvement become valueless.

Remaining Value - is the value corresponding to the remaining useful life of an asset, commonly used in regard to the machinery.

Rent/ Rental - See *Market Rent, Turnover Rent.*

Replacement Cost (New) - a replacement cost estimate envisions constructing a structure of comparable utility, employing the design and materials that are currently used in the market. The current cost of a similar new item having the nearest equivalent utility as the item being appraised. The cost of replacing an asset with an equally satisfactory substitute asset; normally derived from the current acquisition cost of a similar asset, new or used, or of an equivalent productive capacity or service potential. Replacement cost assumes the use of modern materials, techniques and designs. See *also Reproduction Cost.*

Replacement Cost New Less Depreciation (RCNLD) - the term sometimes used by valuers in the Philippines equivalent to the term Depreciated Replacement Cost.

Reproduction Cost (New) - the cost to create a virtual replica of the existing structure, employing the same design, features and style, and similar building materials. The current cost of an identical new item. Reproduction cost is likely to be greater than Replacement Cost.

Residential Land - is land principally devoted to habitation.

Residual Value - the estimated amount that an entity would currently obtain from disposal of an asset, after deducting the estimated costs of disposal, if the asset were already of the age and in the condition expected at the end of its useful life. The net amount which the entity expects to obtain for an asset at the end of its useful life after deducting the expected costs of disposal. The remaining value of an asset at the end of a prescribed period of time (in this definition residual value is similar to scrap value).

In very general use, 'residual value' can refer to the value of a component of a property after the value of all other components making up the whole, are removed.

Right of Way - rights or privileges, acquired through use or contract, to pass over a portion or strip of landed property owned by another; a right or privilege to pass over a property of another person. This can be gained by a formal contract arrangement, or sometimes

by regular use established over a long period. A right of way or easement will benefit the adjoining owner or users, and likely reduce the value of the property over which the right of way or easement exists.

Sales Comparison Approach - a comparative approach to value that considers the sales of similar or substitute properties and related market data, and establishes a value estimate by processes involving comparison. In general, a property being valued (the subject property) is compared with sales of similar properties that have been transacted in the market. Listings and offerings may also be considered.

A general way of estimating a value indication for personal property or an ownership interest in personal property, using one or more methods that compare the subject to similar properties or to ownership interests in similar properties. This approach to the valuation of personal property is dependent upon the Valuer's market knowledge and experience as well as recorded data on comparable items.

Schedule of Market Values (SMV) - refers to a table of market values of real properties within a local government unit prepared by assessors pursuant to existing laws, rules and regulations. The SMV, as set out in the Philippine Valuation Standards, is synonymous to the Schedule of Fair Market Values (SFMV) referred to in the Local Government Code.

Scrap Value - the value that the basic recoverable materials (usually metals) of a physical property would have as junk if it were completely broken up or too badly deteriorated to serve its normal purpose; the value of an asset at the end of its physical life**.**

Special Buyer - a buyer to whom a particular asset has Special Value because of advantages arising from its ownership that would not be available to general buyers in the market.

Special Purpose Properties/Specialized Property - a property that is rarely, if ever, sold in the market, except by way of sale of the business or entity of which it is part, due to uniqueness arising from its specialized nature and design, its configuration, size, location, or otherwise. Examples of specialized properties include refineries, power stations, docks, specialized manufacturing facilities, public facilities, churches, museums, and properties located in particular geographical locations for operational or business reasons.

They are properties, which are designed, constructed and developed for a specific use or purpose. By its very nature, this type of property is rarely offered for sale in the open market except as part of a going concern. Because of the special design and function, conversion of special purpose properties to other types of development or application is generally not economically feasible.

Summation Approach - See *Cost Approach.*

Tax Map - is a graphic representation of an LGU, or part of an LGU, drawn to scale and having property lines and jurisdictional boundaries delineated showing all parcels of real property and identifying each separate real property ownership by a unique number. A tax map is also referred to as Property Identification Map.

Tax Mapping - is a highly accurate method of field operations for identifying real property units, defining property boundaries, determining actual use, and discovering undeclared properties for taxation purposes.

Turnover Rent or Participation Rent - any form of lease rental arrangement in which the lessor/landlord receives a form of rental that is based upon the earnings of the lessee/tenant. Percentage rent is an example of a turnover rent.

Useful Life - is the period of time over which the property, with typical maintenance, may reasonably be expected to perform the function for which it was designed or intended.

Utility - a relative or comparative term rather than an absolute condition, that refers to the degree of usefulness of a property.

The utility of agricultural land is measured by its productive capacity. If the land has development potential, its productivity is measured by how well it will support a residential, commercial, industrial, or mixed use.

Optimum utility is achieved for some property if operated on an individual basis. Other property has greater utility if operated as part of a group of properties, or held and managed within an aggregate or portfolio of properties.

Utility is generally measured from a long-term perspective, ordinarily over the useful life of a property or group of properties. When a property may not have a readily discernible degree of utility at the date of valuation, full disclosure of the value definition, supporting data, and extent of special assumptions or limiting conditions is required.

Valuation - the process of estimating value.

Valuation Date/ Date of Valuation - the date as of which the Valuer's opinion of value applies. This date is often the date of inspection, but can be a date in the past (as in the case of RPT). A valuation date can never be in the future as value relies on knowing the circumstances of the property and all factors influencing value at the date of valuation.

Valuation Ratio - A factor wherein a value price serves as the numerator and financial, operating and physical data serve as the denominator.

Valuation Report - a document that records the instructions for the assignment, the basis and purpose of the valuation, and the results of the analysis that led to the opinion of value.

A Valuation Report may also explain the analytical processes undertaken in carrying out the valuation, and present meaningful information used in the analysis. Valuation Reports can be either oral or written. The type, content and length of a report vary according to the intended user, legal requirements, the property type, and the nature and complexity of the assignment.

Valuation Standards - the Philippine Valuation Standards, unless otherwise specified.

Value (refer to Market Value) - the price most likely to be concluded by the buyers and sellers or a good or service that is available for purchase. Value establishes the hypothetical or notional price that buyers and sellers are most likely to conclude for the good or service. Thus, value is not a fact, but an estimate of the likely price to be paid for a good or service available for purchase at a given time.

Value in Use - the value of a property or asset to the owner or user in the hands of the current owner/user while currently occupied for that specific purpose or undertaking a particular operation. This reflects the benefits they currently have from the property.

Value of Improvements - the value added to the land by improvements such as buildings, structure or modifications to the land, of a permanent nature, involving expenditures of labour and capital, and intended to enhance the value or utility of the property.

Valuer/Appraiser - refers to a person who conducts valuation/appraisal; specifically, one who possesses the necessary qualifications, license, ability and experience to execute or direct the valuation/appraisal of real property.

Zoning - is the delineation/division of a city/municipality into functional zones where only specific land uses are allowed. It directs and regulates the use of all lands in the community in accordance with an approved or adopted land use plan for the city/municipality. It prescribes setback provisions, minimum lot sizes, building heights and bulk, and other matters.

Zoning Ordinance - refers to legislation approving the development control/zoning plan and providing for the regulations and other conditions on the uses of land.

INTRODUCTION

This Mass Appraisal Guidebook is a supplement to the Manual on Real Property Appraisal and Assessment Operations issued by the Department of Finance under Local Assessment Regulation No. 1-04 dated October 4, 2004, and complements the Philippine Valuation Standards (1st Edition), issued under Department Order No. 37 -89 dated October 19, 2009. This Guidebook provides extensive presentation of appraisal process and procedures that may be applied to all property types including Plant, Machinery and Equipment, and Special Purpose Properties. The principles, methods and examples provided as prescribed to be used by assessors and appraisers in the valuation of property for local government taxation purposes.

The assembly of this Guidebook is, in large part, a result of the processes undertaken within the pilot LGUs for purposes of the Land Administration and Management Project. This program was used to test the applicability of proper market-based values for use in mass appraisal and property tax purposes. This program has been proven to be effective in the project pilot sites.

The Assessor's Manual is a guide for assessors across the country which contains elements and extracts of legislation and various regulations on property valuation and assessment. This Guidebook, as an expansion of the Assessor's Manual, contains many examples and illustrations of systems, models or scenarios on property valuation, for which assessors and LGUs are expected to apply the material within the context of their respective local setting. The inappropriate application of procedures or principles could lead to errors within the appraisal process. Most illustrations relating to replacement cost, building depreciation, value calculation, land value or golf course values for instance are there to help the appraiser or assessor, but sound judgment must be applied in the use of this Guidebook, particularly where there is evidence contrary to the example provided. Where the model or example in this Guidebook is suitable, or can be adjusted to the appropriate circumstances, it may be adopted. If the example is unsuitable, then it should not be used.

A number of elements within this Guidebook are similar to those of the Assessor's Manual, and this is appropriate given the purpose of this Guidebook.

This Guidebook is compliant with the Philippine Valuation Standards. An extract from the Guidance Notes on Market Value and Mass Appraisal is included in the appendices.

The use of the terms *'value'*, *'valuation'* and *'valuer'*, and *'appraise'*, *'appraisal'* and *'appraiser'* are almost interchangeable, and all are used within this Guidebook. No particular inference should be made from the use of one term over another. The dual terminology is mostly in keeping with common usage, and the Standards, although there is some conception that 'appraisal' refers to 'mass appraisal', and 'valuation' should be used in the case of individual and specific valuations of certain property. There is no distinction within this Guidebook. It should be noted that *'Fair Market Value'* as referred to in the Local Government Code is synonymous with the *'Market Value'* as set out in the Philippine Valuation Standards. Each has a definition, the purpose of which is to establish the proper concept of value. An examination of the purpose of either definition or associated discussions will clarify that there is no conflict. This publication adopts the Standards definition.

As part of the advancement of mass appraisal, and in support of the property industry, in general, the LAMP2 has also developed a computer-based real property sales and transaction database - Valuation Database and Information System (VDIS) - designed to store and support the analysis of sales transactions within the LGUs. This database, when used properly and in conjunction with modern sound appraisal techniques, will be a very powerful tool in assisting the determination of market value.

Examples and illustrations in this Guidebook amplify the local setting in the Philippines, and are mostly based on properties or circumstances that were encountered during the practical appraisal work in the market value research and simulation activities undertaken in the pilot cities of Iloilo, Naga and Mandaue.

This Guidebook also combines the distilled views, knowledge and skills of the staff and advisers attached to the National Tax Research Center, the Bureau of Local Government Finance, as well as the Assessor's Office from LGUs Naga, Iloilo, and Mandaue.

1

General Valuation Concepts and Principles

HISTORICAL AND LEGAL BACKGROUND

Since the time humans have used land for primary production, the process of applying value to land has become necessary for purposes of exchange (sale and purchase) and raising tax by the government. Real property has been valued since ancient times. There are many references to land value in ancient texts:

- In the Bible (Genesis 23), Abraham wanted to purchase land to bury his wife. He asked to buy the land for its 'full price' as apparently he did not want any favors.

- In ancient Rome in 58 BC, the statesman and orator Marcus Cicero was banished from Rome for political reasons and his house and villas were destroyed. A year later he was granted compensation money from the government, although he was not happy, as he said the government assessors had not set the value high enough. He said that the assessors had… "valued my house …and other places very stingily".

- In 780 AD, Prime Minister Yang Yan, who served under Emperor Dangzong of Tang (China) focused attention on land-based taxes, and these tax concepts remain the base for the next 1,200 years.

- The first well known valuation conducted across a large number of properties in any country was in England in 1194, when a formal process was put in place which described the information to be collected and broad principles of valuation.

- In 1644, England imposed a monthly assessment upon counties, cities and towns and other real estate, and this was an early form of tax based on true property values. Even then, assessors were instructed to 'make diligent enquiry' and not 'estimating them at fixed value, but according to whether the land is good or bad, whether the land value is likely to increase or decrease'.

• In 1651, in Massachusetts, USA, it was prescribed that assessors determine the value of stocks and estate.

• In 1662, Sir William Petty prepared the first documented land valuation manual in Ireland. It provided instructions on how to determine value as to size, location, fertility, services, access, rents, recent sales, and type of ownership.

In the Philippines, real property tax was introduced in 1901, when municipalities were authorized to levy, among others, an ad valorem tax of not more than one-half of 1% of the assessed value of real property;

The passage of Commonwealth Act No. 470 of 1939 led to the separation of assessment and collection functions by creating the position of Provincial Assessor in each province.

In 1972, changes and reforms in real property tax administration were instituted under Presidential Decree No. 76.

In 1974, the Real Property Tax Code of the Philippines was issued under Presidential Declaration 464 to upgrade the assessment techniques, procedures and practices in the country to bring about equitable distribution of the realty tax burden among real property owners, and to fully tap the income potential of real property tax to make local government financially reliant, capable of contributing their proportionate shares to national progress, and underwrite basic and essential public service within their area of responsibility.

In 1991, the Philippine Congress enacted the Republic Act No. 7160 or the Local Government Code devolving the authority of administering real property taxation to the local government units under Section 200. The LGC further mandated (Section 201) the DOF to promulgate the necessary rules and regulations for the classification, appraisal and assessment of real property for taxation purposes.

VALUATION CONCEPTS AND PRINCIPLES

Land and Property Concept. Land is one of the major factors of production and is supplied by nature without the aid of humans. Land may include not only the earth surface, both land and water, but also anything that is attached to the earth's surface, including all natural resources in their original state, such as mineral deposits and timber.

Valuation of land as if vacant, or of land and improvements on the land, or for the benefit of the land, is an economic concept. Whether vacant or improved, land is also referred to as real estate. Value is created by the real estate's utility, or capacity to satisfy the needs and wants of human societies.

Contributing to its value are the real estate's general uniqueness, durability, potential, features of location, relatively limited supply, and the specific usefulness of any given site.

All appraisals are concerned with property. Property refers to the inherent rights of ownership and future benefits of tangible and intangible assets and is taken to mean any right or interest reflecting a source or attribute of wealth. The word "property", when used without further qualifications, may refer to real property or personal property, or other types of property, such as businesses and financial interests, or a combination thereof. Personal property pertains to movable physical assets. Anything that is not part of real estate is personal property. Realty (which is synonymous with real estate) consists of land and all improvements on and to the land. Real property, on the other hand, includes rights in realty.

The distinction between real property (rights in realty) and realty or real estate (the physical thing) is significant, in that it is the real property rights that are transferred and valued in the market and not the real estate – the rights can be moved, passed on, sold, etc., but the land itself stays where it is.

The basic rights of private ownership of property include possession, control, enjoyment, disposition or use, exclusion, plus the right not to exercise any of the above rights. The term used to describe the full set of private ownership rights is "bundle". The "bundle of rights theory" states that these rights are both divisible and separable, i.e., they may be exchanged in whole or in part. In every appraisal, it is necessary to identify what rights or what part of the total bundle are appraised, i.e., which property rights are to be appraised. Are we appraising the right to own, the right to lease, or perhaps in the case of a license for instance, the right to use for a very specific purpose?

In undertaking LGU assessments, the rights being considered for appraisal purposes are the rights of freehold ownership — that is the value of the right of ownership. Thus, for LGU purposes, what is being considered is the market value (effectively the fair selling price) of the property, free of any charges or mortgages, etc., or simply, how much the property would sell under normal circumstances.

Market Value Definition. Market value is defined under the Philippine Valuation Standards as the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arm's length transaction after proper marketing, wherein the parties had each acted knowledgeably, prudently, and without compulsion. This internationally accepted definition, as determined by the International Valuations Standards Council (IVSC), is being adopted by 53 countries, including the Philippines.

Market value is not determined, it is estimated. Market value is ascertained by the actions of the buyers and sellers involved in transactions. Valuers and appraisers do not create value - they effectively uncover the value that is already in the property. Value is estimated through the application of valuation methods and procedures that reflect the nature of the property and the circumstances

under which the given property would most likely trade in the (open) market. The most common methods used to estimate market value include the market data/sales comparison approach, the cost approach, and the income capitalization approach, including discounted cash flow analysis. In determining market value, appraisers attempt to mimic the market and determine what price (value) would be achieved if the particular property was actually put on the market and sold.

Market value as defined above comes with the understanding that:
1. Buyer and seller are typically motivated.
2. Both parties are well-informed or well-advised and each is acting in what they consider their own best interest.
3. A reasonable time is allowed for exposure in the open market.
4. Payment is made in cash or its equivalent.
5. Financing, if any, is on terms generally available in the relevant market place at the specified date and is typical for the type of property in its market, and
6. The price represents a normal consideration for the property sold, unaffected by special financing amounts or terms, services, fees, costs or credits incurred in the transactions, or payments of taxes by the buyer on behalf of the seller.

Valuation:
1. Can apply to all kinds of real property.
2. Is often in the form of a written report.
3. Is always at a specified date.
4. Is often for a particular purpose.
5. Is a skilled interpretation of the market place, at a specific moment in time, as to what price a given property might achieve if it were to be sold.

Appraiser or Valuer (Professional Property Valuer). An appraiser or a valuer is the key player in undertaking valuation. The Philippine Valuation Standards defines an Appraiser as:

> *"A person who possesses the necessary qualifications, ability, and experience to estimate property value for a diversity of purposes including transactions involving transfers of property ownership, property considered as collateral to secure loans and mortgages, property subject to litigation or pending settlement on taxes, and property treated as fixed assets in financial reporting. A Professional Property Valuer may also possess the specific expertise to perform valuations of other categories of property, i.e., personal property, businesses, and financial interests."*

In Republic Act No. 9646 or Real Estate Service Act, the term 'appraiser' is defined as: *"also known as valuer, refers to a person who conducts valuation/appraisal; specifically, one who possesses the necessary qualifications, license, ability and experience to execute or direct the valuation/appraisal of real property."*

MARKET VALUE AND REALITY

In a market value-based taxation system, the value of the property is based on the true market value of the property. Therefore, the value is expected to be that price which would be achieved if a sale took place, and assuming a willing buyer and willing seller have full knowledge of the property, it is an arm's length transaction, and in accordance with the market value definition.

However, a market-based taxation system implies that the value is based on the most advantageous use of the property. If parties are knowledgeable about the property, they will know what can or cannot be done with such property, thus, the transaction price will be based on its 'most advantageous use'. This advantageous use must be legal and permissible. Having established the proper value of real estate in accordance with market value, various authorities are at liberty to amend or adjust values in accordance with various assessment and taxation specific requirements.

FORCES INFLUENCING VALUE

There are many factors that influence value. In conceptual terms, these can be brought together in four broad categories.

Social Forces - are those forces or factors that reflect the attitudes of buyers and sellers and may include: • Population growth and decline • Shift in population density • Changes in family size • Attitudes toward education and social activities • Attitudes toward architectural design and utility • Other factors emerging from human social instincts, ideas and yearnings	***Economic Forces*** - include the resources and efforts of people to achieve their social ideals and are made up of such factors as: • Natural resources; quantity, quality, location, rate of depletion • Commercial and industrial trends • Employment trends and wage levels • Availability of money and credit • Price level interest rates, tax burdens • Other factors affecting purchasing power
Governmental or Political Forces - are those that are applied by the laws and regulations of the Government. These include: • Zoning Laws • Building Codes • Police and fire regulations • Rent controls, special use permits, credit control • Government sponsored housing and guaranteed mortgage loans • Monetary policies, including taxation, affecting free use of real estate	***Physical or Environmental Forces*** - are those that are created by nature or people, and are factors that are mostly visible, these include: • Climate • Soil fertility • Mineral resources • Community factors – transportation, proximity of schools, churches, parks and recreation areas. • Flood control and soil conservation • Soil characteristics (subsoil)

ECONOMIC PRINCIPLES RELATING TO MARKET VALUE

These economic principles which have evolved from economic doctrine are generally accepted as having direct effect on the concept of market value. It must be emphasized that these principles can rarely, if ever, be considered in isolation. It is typical to use these principles in an interrelated manner since they accompany one another.

- **Principle of Supply and Demand.** Value is determined by the interaction of the forces of supply and demand in the appropriate market as at the date of appraisal.

- **Principle of Highest and Best Use.** It is the use from all reasonable, probable, and legal uses that are found to be physically possible, appropriately justified, and financially feasible that the maximum property value arises. Highest and best use is in most cases the 'most probable use'. However, if the most probable use is not the highest and best use, then the appraiser must seriously consider adopting the 'most probable use' given the reality of the market.

- **Principle of Substitution**. A prudent buyer would pay no more for a property than the cost of acquiring an equally desirable substitute in the market. Substitution may take the form of:
  - a. Acquiring an existing property with the same utility (basis for the market approach); or
  - b. Producing a substitute property with the same utility (basis for the cost approach); or
  - c. Acquiring investment which will produce an income stream of the same size with the same risk (basis for the income approach)

- **Principle of Contribution.** The value of an element in production or a component of a property depends on how much it contributes to the whole, or how much its absence detracts from the value of the whole.

- **Principle of Competition.** Profit tends to breed competition and excess profit tends to ruin competition.

- **Principle of Increasing and Decreasing Returns**. When successive increments of one or more factors in production are added to a fixed amount of the factors, there is a resulting enhancement in income up to a point of maximum returns. Any incremental addition thereafter results in a diminishing income in relation to the capital being contributed. The increase in investment of capital over and above that which provides a reasonable contribution to value is termed 'overcapitalization'.

- **Principle of Balance.** Balance among the factors of production is achieved at the point of diminishing returns, which is the point of maximum value.

- **Principle of Change.** Change is inevitable and constantly occurring.

- **Principle of Anticipation**. Value is created by the expectations of benefits to be derived in the future. Value is dependent on the future, not the past. Past experience is useful for indications of future trends and conditions that it may provide.

- **Principle of Conformity**. Maximum value is realized when a reasonable degree of homogeneity and compatibility is present. Over improvement, under improvement or misplaced improvement may bring about non-conformity within a property or its environment. This principle works in conjunction with: progression, regression and principle of utility.

- **Progression.** Between dissimilar properties of the same type, the value of the lesser property is enhanced by the presence of the superior.

- **Regression.** Between dissimilar properties of the same type, value of superior property is affected adversely by the presence of the inferior.

- **Principle of Utility.** The key criterion in the valuation of any real or personal property is its utility. Procedures employed in the valuation process have the common objective of defining and quantifying the degree of utility or usefulness of the property valued.

THE PHILIPPINE VALUATION STANDARDS

The LAMP project, which started with Phase 1 in 2001, established that the existing property valuation system contributes to an inefficient and inequitable land market in the Philippines. It found, among other things, that there is a wide variety of valuation practices and associations in the Philippines. In the private sector, for example, the Institute of Philippine Real Estate Appraisers (IPREA), which is currently a member of IVSC, has adopted the International Valuation Standards (IVS) in its entirety whereas the Philippine Association of the Realty Appraisers (PARA) has adopted the Uniform Standards of Professional Appraisal Practice (USPAP). In the public sector side, local government valuation agencies are regulated by the Local Government Code and Assessor's Manual. While there is no central government valuation department or agency, individual government agencies undertake or outsource property valuations to the private sector with limited guidance on uniform standards. This has resulted in inconsistent and often inequitable valuations.

The LAMP project seeks to rectify this situation by providing a uniform set of national valuation standards based on internationally accepted valuation standards, concepts, principles and practices that can be used to regulate valuations for and by government agencies, including local government units. It is also hoped that the government can provide leadership to the private sector and that the Philippine Valuation Standards will provide a model for private sector valuations.

The DOF, through the BLGF, is tasked with professionalizing and raising the level of the property valuation industry and more specifically with developing valuation standards for use by public and private sectors. Legislation has been drafted which requires that valuation standards shall conform with the generally accepted valuation principles and internationally accepted standards and practices.

Inasmuch as valuation is a dynamic process, the PVS will be amended and updated over time in order to respond to changing conditions, both nationally and globally.

In a nutshell, the following are the concepts and principles, standards, applications and guidance notes of the PVS:

1. **Concepts Fundamental to Generally Accepted Valuation Principles (GAVP)**
   This section defines and explains basic valuation terms and concepts, including *Real Estate, Real Property, Personal Property, Asset, Market Value*, and has a useful explanation of *Price, Cost, and Value* as well as *Highest and Best Use*. It also introduces the three market-based valuation approaches: *the Sales Comparison Approach, the Income Capitalization Approach, and the Cost Approach*

2. **Code of Conduct**
   This section of the PVS provides requirements for a code of conduct to address the ethical and competency requirements of valuers in professional practice. Ethical conduct serves the public interest, sustains the trust of users of valuations, and works to the benefit of the valuation profession itself. It ensures that the results of valuations are reliable, consistent, and unbiased.
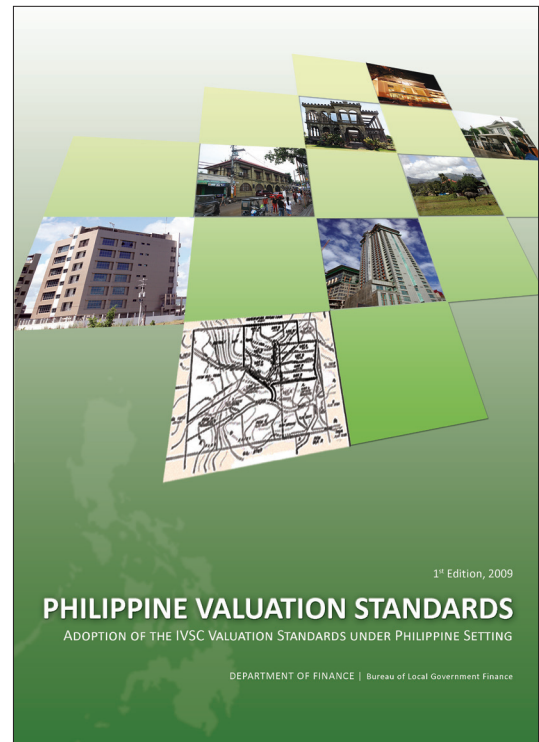
3. Property Types

This section provides further explanation on *Real Property* and the *'Bundle of Rights',* such as freehold and leasehold interests, easements, etc. The section on *Personal Property* includes tenant's fixtures and fittings, and this raises a potential conflict with valuations for taxation purposes. However, the PVS provides that, in such situations, local statutes and laws shall prevail.

Market Value Basis of Valuation - PVS 1

This is the main 'Core' Standard providing the nationally and internationally accepted definition of Market Value, together with a full explanation and discussion of its use. It is the principal basis of valuation. This is fundamental and it is adopted in this Guidebook verbatim. However, it should be noted that the Local Government Code provides slightly (though not materially) different definitions of *'Fair Market Value'.*

Bases Other Than Market Value - PVS 2

This is the second 'Core' Standard. It deals with three non-market bases (as opposed to methods) of valuation. The first reflects the benefits that a specific entity enjoys from ownership of a specific asset, which is known as *Investment Value*. The second represents the price that would reasonably be agreed between two specific parties such as *Fair Value, Special Value, Marriage Value*, and also defines *Going Concern Value* and *Liquidation Value* bases.

Valuation Reporting - PVS 3

This is the third 'Core' Standard which describes the critical importance of a Valuation Report as the final step in the valuation process. While the use of the valuation and the complexity of the property determine the level of detail appropriate to the Valuation Report (Code of Conduct Standard, Section 7.2), this Standard sets out minimum requirements, which are mandatory.

However, much of this Standard is applicable to individual 'full' valuations rather than those carried out under statutory provisions. This Standard is therefore not directly relevant to this Guidebook, although it should be noted that the valuation process remains the same and that the valuation roll or list is in itself a valuation report. This Standard, however, is of fundamental importance when reporting for valuations for non-taxation purposes.

Valuation for Financial Reporting - PVS Application 1

This application of the Standards contains direct extracts from the International Accounting Standards (IAS) and the International Financial Reporting Standards (IFRS). It provides definitions and the categorization of assets (including land and buildings, machinery, etc.) for accounting purposes. This Standard is not directly relevant to this Guidebook.

Valuation for Secured Lending Purposes - PVS Application 2

This underlines the requirement for *Market Value* to be the basis for all mortgage valuations and is motivated by the need to reduce risk through exposure to inaccurate valuations used by the banking sector. This Standard is not directly relevant to this Guidebook.

Valuation of Public Sector Assets for Financial Reporting - PVS Application 3

This application of the Standards defines and explains the requirements for valuing assets owned or controlled by government or quasi-government bodies. These are directly linked to the International Public Sector Accounting Standards (IPSAS). In 2002, the Philippine New Government Accounting Standards (PGAS), based on IAS/IFRS and IPSAS, was introduced. Both sets of Accounting Standards provide for 'measuring' (i.e., 'valuing' for you and me) public assets at either *'Historic Cost'* (less accounting depreciation) or *'Fair Value'* (that is, re-valued to Market Value). The important point is that at the time of writing, the Philippine Public Sector Accounting Policy measured public assets at Historic Cost (i.e., they do not need to be re-valued) though this may change in the future.

In any event, Financial Reporting of Public Assets does not fall under the scope of RPT; therefore, this section of the Standards does not directly impact on this Guidebook.

Real Property Valuation - Guidance Notes 1 (GN1)

This Guidance Note has some definitions of real property which could be compared with the definitions for taxation purposes as they differ somewhat, though taxation prevails as allowed by the PVS/IVS.

Valuation of Lease Interests - GN2

This Guidance Note provides definitions and explanations of leasehold interests and the bundle of rights, including a useful diagram which illustrates the Hierarchy of Property Rights *(page 104, Philippine Valuation Standards)*.

Valuation of Plant, Machinery and Equipment - GN3

This Guidance Note provides useful material for this specialized field, but it is drafted with individual 'full' valuations in mind, rather than statutory valuations or mass appraisals for taxation purposes. Therefore, while it should be referred to, it will not override the current RPT model or any subsequent provisions in this Guidebook.

Valuation of Intangible Assets - GN4

As with the Guidance Note on Business Valuations, this Guidance Note is not directly applicable to this Guidebook as assessors are not required to value intangible assets such as goodwill and intellectual property rights for purposes of RPT. It does, however, provide a useful background to the relationship between real property and other assets owned by businesses.

Valuation of Personal Property - GN5

This Guidance Note provides guidance on the definition and valuation of *Personal Property,* which includes tenant's fixtures and fittings, and plant, machinery and equipment. There is a potential issue here as the Local Government Code defines these as *Real Property***,** which is taxable. It is, therefore, possible that an assessment could be challenged on the grounds that they are not taxable items as they should be classified as *Personal Property*. In certain cases, the amounts involved could be considerable (for example, in fitting-out shopping malls, and plant, machinery and equipment at heavy industrial and car assembly plants, etc.), therefore, there is great incentive for the taxpayer to object. The 'answer' to this issue is that the Standards provide for departure in the case of Statutory Valuations. This point is emphasized in this Guidebook so that assessors have an immediate point of reference, thus, avoiding confusion and wasted time if objections are raised.

Business Valuation - GN6

This Guidance Note covers the valuation of businesses for purposes of shareholdings, acquisitions and disposals. Its relevance to property valuation is mainly with regard to the relationship between the property assets as part of a going concern and the overall value of the business. All property asset valuers should be generally aware of the business valuation process but this Guidance Note is primarily aimed at those providing or procuring business valuations or providing asset valuations as part of such an exercise. As such, it is not directly relevant to RPT and this Guidebook.

Consideration of Hazardous and Toxic Substances in Valuation - GN7

This Guidance Note provides useful guidance for situations where environmental conditions may have an adverse effect on property values. It is an area that is becoming increasingly relevant. In the Philippines, it is particularly relevant to land-fill sites, and residential areas affected by industrial pollution (including smoke and smells from waste dumps, etc.) and also power transmission lines. Examples may be found in the marketplace where sales/offers on new residential developments in affected areas occur at discounted prices.

Cost Approach for Financial Reporting (Depreciated Replacement Cost [DRC]) - GN8

Notwithstanding its reference to financial reporting, this is the basic guidance for DRC valuations, therefore, very relevant to this Guidebook. It provides definitions of physical, functional and external obsolescence which could be used by assessors and appraisers. Even if the SMV approach to estimating depreciation is slightly different, the section on obsolescence provides an explanation of the concepts that should be behind the methodology. It also introduces the concepts of 'subject to adequate profitability' and 'service provision' (in the case of public buildings). While these are concepts for financial reporting rather than RPT, reference should be made in order to understand the principle and this would be relevant for LGUs undertaking valuations for non-RPT purposes.

Discounted Cash Flow Analysis for Market Valuations and Investment Analyses - GN9

It is not expected that the DCF approach is likely to be used in the average LGU. However, as this Guidebook has been developed for use across the whole country, and as market value assessments become more sophisticated over time, it may be worthwhile to consider this approach. Assessors in

highly developed central business districts (CBDs) should already be familiar with this approach in valuing businesses and certain types of income-generating properties.

Valuation of Agricultural Properties - GN10

The Local Government Code provides a slightly different definition for Agricultural Land and, therefore, this takes higher precedence. However, this section provides guidance on categorizing non-realty elements and also on adopting different valuation approaches for different asset elements.

Reviewing Valuations - GN11

This is a very useful Guidance Note which distinguishes between administrative (compliance), desk, field, technical, and valuation reviews. It crystallizes the purpose of the review and should be a useful reference point even within government (for example, for senior valuers carrying out informal reviews of their staff's work).

Valuation of Trade-Related Properties - GN12

This Guidance Note relates to hotels, gasoline stations, restaurants, etc. As a rule, the valuations undertaken for RPT purposes are currently based on comparable land sales prices plus the Depreciated Replacement Cost for buildings and other improvements. Thus, this Guidance Note will not be directly applicable to this Guidebook. However, it should be referred to, and assessors should be aware that the Profits Method is the 'normal' approach adopted for individual valuations of this category of properties.

Mass Appraisal for Property Taxation - GN13

This Guidance Note specifically provides that the mass appraisal process may be utilized as a methodology for *ad valorem* property taxation whereby value is determined in accordance with the requirements prescribed by statute or legislation. Despite this provision valuers undertaking valuations for RPT purposes should not depart from the generality of the Standards with regard to the generally accepted valuation concepts and principles and the code of conduct.

Valuation of Properties in the Extractive Industries - GN14

This Guidance Note differentiates mineral extraction and the petro-chemical industry in accordance with the United Nations Framework Classification, and provides a general explanation of the industries and terminologies used. It also differentiates four categories of properties: 1) exploration, 2.) resource, 3) development, and 4) production properties, and stresses the specialist nature of the quantifying reserves, etc.

Valuation of Historic Property - GN15

This Guidance Note provides guidance on valuing heritage properties and reinforces the use of the three main valuation approaches as applicable to the type and use of the property being valued, e.g., functional/income producing, monumental, etc. The valuation of historic properties involves special considerations such as legal restrictions or encumbrances, the intrinsic value of historic features or construction methods, higher cost of maintenance, and the cost of reproducing a replica or a modern equivalent.

2

Valuation Approaches, Techniques and Applications

INTRODUCTION

In any appraisal situation, it is important to consider if the calculated value seems reasonable. It is fundamental to temporarily disregard the often complicated detail of a property and ask, '*Does this seem reasonable?*' or '*If the property really was for sale, how much would it sell for?*'. This is a quick check on the figure derived from calculations. From time to time, the appraiser will discover that the calculated figures add to a certain amount which may be too high or too low.

In determining the valuation method to be used, it would be best for the appraiser to apply the same method or process as a typical buyer and seller to have a feel of the market. In mass appraisal, it is not expected or possible to individually assess or value each property.

In undertaking a general revision of values, many individual sales analysis will likely be conducted in the same way that it would require for individual valuations in order to obtain the best results, given the constraints that are placed on assessors. Mass appraisal is the task of valuing many properties at the same time. In arriving at the valuation factors used in mass appraisal, individual elements such as unit value, which make up the mass appraisal, would have likely been derived from analysis of individual properties or groups of properties.

The valuation approaches are also extensively discussed in the Philippine Valuation Standards:

> "In many, but not all, countries three valuation approaches are recognized in the valuation process: sales comparison, income capitalization, and cost. While a well-evidenced market may make the cost approach less relevant, a lack of comparable data may cause the cost approach to be predominant. The laws of some countries preclude or limit the application of one or more of the three approaches. Unless there are such restrictions or unless there are other compelling reasons for a particular omission, it is reasonable for the valuer to consider each approach. In some countries, the use of each approach is mandated unless the valuer can demonstrate a lack of supporting data or other valid reason for omission of a particular approach. Each approach is based, in part, on the Principle of Substitution, which holds that when

several similar or commensurate commodities, goods or services are available, the one with the lowest price attracts the greatest demand and widest distribution. In simple terms, the price of a property established by a given market is limited by the prices commonly paid for properties that compete with it for market share, the financial alternatives of investing money elsewhere, and the cost of building a new property or adapting an old property to a use similar to that of the subject property (property being valued)".

THE SALES / DIRECT COMPARISON APPROACH

The sales comparison approach or market approach is based on the proposition that an informed buyer would pay no more for a property than the cost of acquiring an existing property of similar nature.

> "The *sales comparison approach* recognizes that property prices are determined by the market. *Market value* can, therefore, be calculated from a study of market prices for properties that compete with one another for market share. The comparative processes applied are fundamental to the valuation process." – *Philippine Valuation Standards (1st Edition) - Adoption of the IVSC Valuation Standards under Philippine Setting (2009)*

Also referred to as the direct comparison, sales comparison approach is particularly applicable when there is an active market with sufficient number of adequately verifiable transactions. However, the direct comparison approach is not quite as useful in an unreliable or an inactive market, which can be the circumstance in a small LGU.

The starting point of the direct comparison approach is the assembly of property facts and accumulation of market data in the form of current market sales and offerings. These are combined in the valuation process to develop an estimate of market value.

After the market information have been collected, adjustments must be made to the sale prices of these comparable properties to account for differences in date of sale, physical characteristics, market conditions, and terms of sale when compared to the subject property. All adjustments are made from the comparable property to the subject property, i.e., the sale price of the comparable property is adjusted for differences relative to the subject property. Adjustments should be made carefully as each adjustment may lead to a potential error.

In the case of all valuations, the ultimate values established rely on proper collection of sales data, sound analyses, and intelligent application of the resulting analyzed information.

Units of Comparison and Value. Before any valuation technique is applied, the appraiser must consider the method of comparing one similar property to another – there must be a way of relating similar properties (which are different in themselves) with each other by using a common factor. 'Units of Comparison' are units of measurement that allow us to analyze real properties by factors recognized in the market, and attach peso amounts to these units. Hence, a square meter, for instance, is a 'Unit of Comparison', and Php600 per square meter, as a 'Unit of Value' both being recognized by the market, are likely to be the factors in the mind of sellers and buyers.

Remember that a valuation is an attempt to mimic the market and determine what processes the market would follow, and arrive at an appropriate value. Thus, the appraiser would try and use the method and units of comparison that would be used by a buyer in considering the property. Buyers of residential property do not often calculate square meter values consciously. However, analysis can often show a pattern that allows valuation analysis.

Using the Direct Comparison Approach relies heavily on using appropriate units to compare one property to another. The following units of comparison are typically found in the market:

Square Meter. Square meter (m^2) is a well-used unit of comparison applied to properties that typically sell based on land or building area (most properties). This unit can be used to value residential, commercial, and small industrial sites. Square meter is almost the universal unit of comparison. It is widely applicable and a dimension that many people can grasp easily.

Although a square meter is a recognizable area, many buyers (particularly residential buyers) do not actually think in square meters. Rather, they think as to whether a property is suitable, appears 'big enough' for their needs, has the right number of bedrooms, etc. Some care must be taken when using square meter values, as two houses in a similar location and exactly the same size may sell for different amounts due to the number of bedrooms (e.g., two bedroom house with big living area and a three-bedroom house with small living area, both of the same size, are likely to sell for different amounts). Analysis of sales may reveal the difference.

Meter Frontage. The market recognizes that the meter frontage of a property contributes to value. Meter frontage is sometimes useful in valuing central business districts, downtown commercial, lake front, or deep water port industrial property (i.e., frontage to the water). It is a key factor for those property types where the length of actual frontage to a road (or other feature) has significant impact on the way a property can be used. This applies particularly to retail (as the retail premises rely a lot on public display and providing an inviting presence to the buying public) and to industrial and commercial property where access for transport, deliveries, etc., are important. Many properties are unaffected by frontage for as long as the land has a useful shape and adequate access. For instance, a large industrial plant has adequate access for transport purposes but the manufacturer does not need to have his actual factory built along the road. Thus, it can function just as well on a rear parcel.

Meter frontage is not usually a key factor in residential property provided that the residential property has an appropriate frontage for the location in which it is located. Thus, a residential land parcel of 12-meter frontage and 20-meter depth (thus 240m²) will is less likely to sell for a significantly different amount to that of a property that has a frontage of 13 meters and 18.5-meter depth (thus 240m²). It is only when the shape of a residential parcel starts to become difficult to use efficiently that the value would change noticeably. Consider a parcel with 8m frontage and with a depth of 3m (24m²) or maybe 6m frontage with a depth of 40m (240m²). The 8-meter and 6-meter frontage properties may sell for less than the 12m frontage properties due to being narrow and not being as efficient a shape for residential purposes.

Hectare Measure. The market often measures the value of agricultural and farm properties on a per hectare basis. Hectare equivalent to (10,000m²) value (as a unit of comparison) may also be applicable to large industrial or residential development sites.

Other Units of Comparison. When not applicable in the residential appraisal, other units of comparison may be the number of rooms (e.g., hotel), volume in cubic meters (e.g., timber, building used for cold storage), number of car park spaces (e.g., multi-storey car park in the city) or seating space/tables for a restaurant. There are many other units of comparison, and they relate to the nature of the business or use of the land/building.

SPECIAL NOTE REGARDING ROUNDING OFF NUMBERS

The actual arithmetic calculations performed in the appraisal process will often result in generating precise numbers (e.g., Php2,386/m²) as a value. It is appropriate in such cases to round numbers to the nearest ten, hundred or thousand, perhaps even ten thousand pesos, depending on the value or numbers concerned.

In any case, a valuation or appraisal is an estimate, and by its very nature an estimate should be a round number.

In rounding off values, the following could be done:
- Php2,386 could become Php2,390 or better still Php2,400
- Php8,947 could become Php8,950 or Php8,900, or Php9,000.
- Php176,300 could become Php176,000, or Php175,000 or Php180,000 or maybe even Php200,000 when talking about very general levels of value for instance.
- Larger numbers such as Php1,760,000 could legitimately be rounded up or down to Php1,800,000 or Php1,750,000, depending on the circumstances.

Rounding off is best done at the conclusion of a calculation; thus, only one rounding off is undertaken. Multiple rounding off within a calculation can sometimes distort the final result.

THE COST APPROACH

The cost approach is based on the proposition that an informed buyer would pay no more for a property than the cost of land and improvements required in reproducing a substitute property with the same utility as the subject property.

"The *cost approach*, also known as the contractor's method, is recognized in most countries. In any application, the *cost approach* establishes value by estimating the costs of acquiring land and building a new property with equal utility or adapting an old property to the same use with no undue expense resulting from delay. The cost of land is added to the total cost of construction. (Where applicable, an estimate of entrepreneurial incentive, or developer's profit/loss, is commonly added to construction costs.) The *cost approach* establishes the upper limit of what the market would normally pay for a given property when it is new. For an older property, some allowance for various forms of accrued depreciation (physical deterioration; functional, or technical, obsolescence; and economic, or external obsolescence) is deducted to estimate a price that approximates *Market Value*. Depending upon the extent of market data available for the calculations, the *cost approach* may produce a direct indication of *Market Value*. The cost approach is very useful in estimating the *market value* of proposed construction, special-purpose properties, and other properties that are not frequently exchanged in the market." - *Philippine Valuation Standards (1st Edition) - Adoption of the IVSC Valuation Standards under Philippine Setting (2009)*

In cost approach, the starting point is the assembly of property facts and the accumulation of cost data. These are combined in the cost estimating process to develop a Reproduction Cost New or Replacement Cost New.

Reproduction Cost New is the cost to create a virtual replica of the existing structure, employing the same design and similar building materials.

Reproduction Cost New means reproducing the property exactly as to how it is/was, even though the design may be outdated or materials may be inefficient, etc. For example, the Replacement Cost New would require the costing of timber trusses if they were present in the building under consideration even though steel trusses are the modern replacement and may be cheaper or more efficient. The Replacement Cost New would include the cost of any period features such as decorative columns, or fancy front veranda which would not likely be included in a modern building of the same type.

Replacement Cost New is the replacement cost estimate that envisions constructing a structure of comparable utility, employing the design and materials that are currently used in the market.

It is the current cost of constructing a similar property using modern materials, standards, design, etc. This would allow the use of steel trusses in place of timber, or perhaps plastic pipe in place of galvanized steel or copper. An old warehouse may have had internal columns to support the roof framing whereas a modern warehouse probably has a large open interior due to portal frame construction. The cost of replacement of a warehouse would, in this case, be the cost of constructing a portal frame building of the same area or purpose as the existing building. Cost of replacement is commonly based on building area. However, in cases where modern industrial practices do not require as much floor area as previous practices, a customized building may need not be the same area as the original building.

In residential construction, it is generally accepted that Replacement Cost New is calculated on the area of the building, plus additional amounts for other improvements, such as fencing, paving, outbuildings, etc.

Depreciation refers to the adjustments made to the costs of reproducing or replacing the assets to reflect physical deterioration and functional (technical) and economic (external) obsolescence in order to estimate the value of the asset in a hypothetical exchange in the market when there is no direct sales evidence available.

Functional obsolescence can be caused by advances in technology that make new assets more efficient in delivering goods and services. Modern production methods may render previously existing assets fully or partially obsolete in terms of current cost equivalency. Applying optimization process will account for many elements of functional obsolescence.

Obsolescence resulting from external influences may affect the value of the asset. External factors include changes in economic conditions which affect the supply of and demand for goods and services produced by the asset of the costs of its operation. External factors also include the cost and reasonable availability of raw materials, utilities, and labor.

Replacement Cost New Less Depreciation (RCNLD) is the term often used by valuers in the Philippines and is equivalent to the term Depreciated Replacement Cost. This reflects the effects of depreciation on a building or other improvement from all sources, and provides an estimate of the contribution to value by the improvements.

Calculating Reproduction Cost and Cost of Replacement. There are four common methods of determining cost as far as appraisal in the Philippines is concerned:

1. The Civil Engineering or Quantitative Method. In this method, calculations are made by the type and quantity of all materials and labor required in the construction of a building to determine its replacement cost. This is the most common method adopted by appraisers in the Philippines. Estimates include all design fees, costs of permits, supervision and builders profit. Value based purely on cost of materials and direct labor does not properly reflect the cost to the buyer.

2. The Unit-in-Place Method. The 'unit costs' for elements that make up the building are assembled and worked up to the total cost of replacement. Examples would be a 300m^2 concrete at Php/m^2, 125m sewer drains at Php/m, etc. It is important that all elements are included and small items are not forgotten. All profits and fees must be included as well.

3. The Indexing Method – This method requires establishing a base cost and year from which the adjustment in costs are measured. The base year may be scored at 100, and subsequent costs changes may be reflected in the modified index. As costs increase (or decrease), the changes are expressed as percentages above or below the base. This method requires careful monitoring of cost changes and incorporating costs in to the model to reflect the progressive increases.

4. The Comparative Method – In this method, the cost is estimated from known construction costs of similar property expressed in terms of units of size or capacity (e.g., per square meter of floor area). Such information may be gained from analyzing the building cost of recently sold properties with new construction. This method is simple and effective, as it incorporates all costs, fees, and profits. It is simply the transport of cost information from one property/building to another of the same type.

Estimating market value (of a whole property) through the cost approach, as described above, generally follows these steps:

1. Value of Land (obtained by comparison with market-based sales)
2. Add Current Replacement Cost New
3. Subtract Physical Deterioration: Curable and Incurable
4. Functional Obsolescence
5. Economic Obsolescence (generally incurable)

Results in (4) Indicated Market Value.

Note that it is almost impossible to separately assess the drop in value attributable to the individual elements of depreciation, thus, the depreciation shown in any calculation will be the value deduced from transactions. In circumstances where no indicative transactions exist, it may be necessary to apply depreciation rates or formula developed over years of experience, or imported from other locations.

<u>Caution When Using the Cost Approach</u>. In many cases, the cost approach is a legitimate method of valuation. However, when using the cost approach, it is most important to only 'cost' those items that are contributing to the value of the property.

Consider a house with a regular water supply and an artesian well at the back of the property wherein the owner decides to put in a second well in front of the property which costs Php15,000. When undertaking a valuation, it could be considered that the extra well adds no value, and therefore, should not be included in calculating the replacement cost or value. In such a case, the cost does not equal the value even when the additional well is new and perfectly functional. The case would be different if the buyer would have a need for the second well, wherein the cost of which can be included in the valuation.

In some instances, an improvement can actually be a detriment. Consider a sturdy concrete block garage on a piece of land that has been subdivided from a larger house and land parcel. The garage is in good order and has been used by the owner of the original large parcel. However, to construct a new house on the subdivided land, this perfectly good, original garage might need to be demolished, the concrete floor broken up, and all the scrap removed. This demolition exercise would cost money and could easily reduce the value of the lot itself. If a similar clear vacant lot would sell for Php400,000, the lot with the garage would probably sell for a little less due to the cost of demolition.

For the cost to equal the value, the item must be new or equal to new, and contribute fully to the highest and best use of the property. For an 'improvement' to add value, it must have a beneficial use. If it has no immediate use or no perceived future use, then it will have little or no value.

THE INCOME CAPITALIZATION APPROACH

The income capitalization approach is the determination of value of an income stream or potential income stream or cash flow. In property appraisal, the income stream is most often the annual net rent. The income approach expresses a fixed relationship between the two factors of (1) net income and (2) capital value. Simple capitalization considers that the income being obtained is available in perpetuity, and expresses value purely as a factor of the current annual income.

> *"The income capitalization approach can be applied in both Market Value assignments and other types of valuations. However, for Market Value applications, it is necessary to develop and analyze relevant market information. This focus differs distinctly from the development of subjective information for a specific owner or the reflection or viewpoint of a particular analyst or investor." - Philippine Valuation Standards (1st Edition) - Adoption of the IVSC Valuation Standards under Philippine Setting (2009)*

With the income approach, an estimate is made on the prospective economic benefits of ownership. This approach assumes that an informed buyer would pay no more for a property than the cost of obtaining an income stream of the same size and embodying the same risk as that of the subject property.

The income approach is not commonly used in determining ordinary residential values, but can be a primary valuation method for apartments when it can be seen that the value of a certain type of apartment is connected to the ability of that type of apartment to generate rent. This is common in larger cities or high-density residential areas.

Income approach is most applicable in the case of investment or commercial properties, wherein this approach would be a method adopted by sellers and buyers in the market.

Given that most buildings have different levels of expenses (compared to each other), it is common to adopt the 'net rent' as the annual income element in the capitalization. After all, the buyer is buying the property for income generation purposes - it is the money he/she will get that is of key interest, and not so much the rent paid; hence, the best basis is to use net rent.

The approaches selected must be supported by the facts and circumstances of the case on hand. The applicability of any approach in a given valuation problem depends on the character of the problem, the type of property involved, the nature of the market, and the availability of the required data of appropriate quality and quantity.

CAPITALIZATION PROCESS

To undertake this process thoroughly, the sale price and the net income of a property must first be determined. In many cases, the net income will be unknown and it may be necessary to adopt various costs and expenses (financial outgoings) in order to deduce the net income from the gross income information. The 'gross income' is the total amount receivable by the landlord.

The capitalization concept comprises three main factors, these being (1) market value, (2) rental value, and (3) capitalization rate. If any two of these factors are known, the other can be calculated.

In certain instances, calculating reliable outgoings may not be possible and capitalization may be calculated on a gross income basis. The gross income basis has potential for considerable error, as a landlord or owner, in reality, only gets to keep the net amount of the rental income after expenses. Thus, any individual property may have a high rent, but if this rent is also associated with high expenses, then the amount actually retained by the landlord will not be as much as it would first appear.

In essence, capitalization determines and expresses the market value as a multiplier of the annual income, or put in another way, it may perhaps more correctly express the income as a percentage of the value. For example, a property worth Php2,000,000 with a return of Php250,000 per annum would have a capitalization rate of 12.5% (i.e., [Php250,000 / Php2,000,000] x 100 = 12.5%). This shows that the annual income is 12.5% of the selling price (value). Thus, we have a 12.5% capitalization rate.

a. Determine the Gross Income. Income is determined by confirming what the tenant is paying and by considering whether that rent is reasonable and in line with other comparable properties. If existing rentals of the subject property are not in line with the comparable buildings, then the valuer should ascertain the reason for this. The valuer should estimate the current market rental value of the property based on comparable rental evidence. In adopting the income approach, it is not necessary to use the actual rent being paid for the property as the rent for valuation purposes. If the rent was set years ago, then it is more appropriate to apply the current rent to the property, less an allowance for vacancy and uncollected rent.

b. Deduct the Expenses/Outgoings. Outgoings and expenses are items which an owner is required to spend to maintain optimum rental level. Typical expenses would include property taxes and any other local government charges, water and utility charges, repairs and maintenance, insurance, and administrative and management costs.

c. Determine the Capitalization Rate. Income capitalization rate is derived from the internal rate of return of an investment. A rate of return includes rate on and return (recapture) of capital invested on building improvements separate and is apart from capital investment in the underlying land.

d. Capitalize the Net Income. Analyzing the comparable sales is the only way a valuer can establish the capitalization rate.

Definitions:

Gross Income	The rent income plus other income statutory and building expenses/outgoings paid by the tenant.
Net Income	Gross income less expenses/outgoings
Capitalization Rate	Yield or expected return (The higher the initial return, the lower the value and the greater the risk)

> **Formula:** $V = I / R$
> **Where:** V = Value
> I = Net Income
> R = Capitalization Rate
>   Capitalization Rate = Income / Value

EXAMPLE

Given: Building Area: 80m^2 (high quality investment type apartment)
        Rental: Php12,000/month (Php144,000/annum)
        Capitalization Rate: 11%

Solution: Capitalized Value (Market Value) = (Php144,000/0.11) = Php1,309,090

In this instance, there is no need to calculate land or building values separately, as these are both included in the total value of Php1.3 Million.

Reminder: In using proper capitalization rate, valuers/appraisers must be aware of and evaluate the factors that investors consider. These are: (1) alternative investments to make capital earn (e.g., stock and bonds markets and their yields); and (2) conditions in the mortgage market.

There are other capitalization methods to estimate the value of property, such as Discounted Cash Flow (where the income is still capitalized although the income is discounted by various amounts, taking into account the cost of money, inflation, rent reviews, lease terminations, re-lettings, specific maintenance and other matters, over a longer period than the current year). The use of Internal Rates of Return or Hypothetical Development are also valid valuation processes. However, these are not suited to *'mass appraisal'*, particularly on residential mass appraisal, and therefore are not explored in this chapter.

EXERCISE ON SALES ANALYSIS

What capitalization rate should a valuer use on a two-storey block of 14 small apartments, each let at Php7,000 per month, with total outgoings of Php150,500, given the following?

    a. Each of the units is 45m² in area and the land is 350m².
    b. These apartments were built approximately five years ago, as were the sales that occurred recently in the locality.

New good quality apartments are costing between Php13,500 and Php14,000 per square meter to build.

Sales Evidence

Sale 1: A two-storey block of 12 small good quality apartments, each let at Php6,500 per month. Apartment area of 45m² each. Land area of 400m². Annual outgoings Php144,000. Sold at Php9,970,000.

Sale 2: A two-storey block of 10 small good quality apartments, each let at Php6,500 per month. Apartment area of 47m² each. Land area of 300m². Annual outgoings of Php136,000. Sold at Php7,800,000.

Sale 3: A two-storey block of 16 smaller good quality apartments, each let at Php4,500 per month. Apartment area of 38m² each. Land area of 300m². Annual outgoings of Php125,400. Sold at Php9,410,000.

Table 1: Sales Analysis Exercise

Particulars	Sale 1	Sale 2	Sale 3
Rent per month (Php)	6,500 (x12)	6,500 (x10)	4,500 (x16)
Gross annual rent (Php)	936,000	780,000	864,000
Outgoings (Php)	144,000	136,000	125,400
Outgoings % GR	15.38	17.44	14.51
Net rental (Php)	792,000	644,000	738,600
Sale Price (Php)	9,970,000	7,800,000	9,410,000
Net cap rate (i.e., after payment of expenses) (%)	7.94	8.26	7.85
Gross cap rate (%)	9.39	10.00	9.18

For purposes of the above example, the results are very close. This happens in actual situations in orderly markets, but many buyers are uninformed and do not always act prudently. It must also be acknowledged that many purchases are undertaken with money earned off-shore and can skew the local market at times.

Valuation Observations:
1. All rents appear to support each other;
2. The lower rents in sale 3 are for much smaller units;
3. Outgoings vary a little, although overall are within 20% of each other; and
4. Net Capitalization rates are very close.

Property to be valued: Block of 14 small apartments
Each apartment has a rent of Php7,000 per month
Total outgoings of Php150,500 per annum

Computation

Gross Rental	=	(14 x 7,000 x 12) Php1,176,000
Outgoings	=	Php150,500
Net rent	=	Php1,025,500

Capitalization rates are very close ranging from 9.18% to 10%, and support each other. Adopt a rounded lower amount of 9.25% for subject property. The percentage adopted is lower than the 'average' due to aligning with the very small apartments. At 9.25%, the subject property would have a value of Php11,086,486 (Php1,025,500/0.0925) or Php11,100,000.

In the case above, an individual valuation has been undertaken. For LGU's SMV purposes, this is not efficient, and the land and buildings need to be shown separately. For an SMV, a square meter rate needs to be established for the land and the buildings. In order to establish

the building's value alone, which is the value shown by these type and area of apartments (and likely can be applied as the 'Buildings Value' for SMV purposes), the appraiser would need to know the land values in the locality. In the example, assume the land value is Php7,500/m^2.

Sale 1. Selling price of Php9,970,000

Analysis: Land area of 400m^2 at Php7,500/m^2	Php3,000,000
Balance (representing buildings of 12 apartments at 45m^2 each)	Php6,970,000
Php6,970,000/540m^2 (12 units at 45m^2)	Php12,907/m^2

Therefore, the value attributable to buildings on Sale 1 is Php12,900/m^2 .

Sale 2. Selling price of Php7,800,000

Analysis: Land area of 300m^2 at Php7,500/m^2	Php2,225,000
Balance (representing buildings of 10 apartments at 47m^2 each)	Php5,550,000
Php5,550,000/470m^2 (10units at 47m^2)	Php11,808/m^2

Therefore, the value attributable to buildings on Sale 2 is Php11,800/m^2.

Sale 3. Selling price of Php9,410,000

Analysis: Land area of 440m^2 at Php7,500/m^2	Php3,300,000
Balance (representing buildings of 16 apartments at 38m^2 each)	Php6,110,000
Php6,110,000/608m^2 (16 at 38m^2)	Php13,000/m^2

Therefore, the value attributable to buildings on Sale 3 is Php13,000/m^2.

Based on the above sales analysis which shows the building to have a value of Php12,900 or Php11,800 or Php13,000, the valuer is now in a position to select a value for SMV purposes. All sales occurred at about the same time, with the highest and lowest amounts having a difference of Php1,100. This is a range of about 9%, and an LGU appraiser would be happy with this. The 'average'[1] of the building values is Php12,566. For purposes of this exercise, the appraiser will adopt Php12,500 as the appropriate added value of buildings. This amount is adopted on the principle that there is insufficient evidence to be confident of the values, and that Php12,500 is inside the range of the sales. It also provides some benefit of the doubt to the taxpayers, given the limited number of sales considered.

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[1] Average values should be avoided where possible. The 'average' value in an area will change every time an additional property sells and is brought into the 'average' calculation. If two or three of the 'better properties' in an area are sold, the 'average' per m^2 will be higher than 'if not so good properties' are sold and averaged, although the typical values in the area will not have changed.

e. Check the property valued by capitalization

This property is a two-storey block of 14 good quality small apartments, each let at Php7,500 per month, with total outgoings of Php150,500. Each of the apartments is 45m^2 and the land is 350m^2. Capitalized value shows Php11,100,000.

Land 350m^2 at Php7,500/m^2	= Php2,625,000
Buildings being 14 apartments at 45m^2 each x Php12,500/m^2	= Php7,875,000
Total value based on land and buildings	= Php10,500,000

The 'capitalized value' is Php11,100,000 and the land and buildings value is Php10,500,000. The difference of Php600,000 is under 6%, and the values support each other.

If the task was to conduct an individual valuation, then the capitalized value of Php11,100,000 is the preferred methodology and value, under the assumption that this is the basis on which such properties were being bought and sold. For SMV purposes, the LGU is exploring a valuation method applicable across a large number of properties and that can provide an equitable basis for the RPT.

The practical and realistic approach for LGUs is to adopt the added value of the buildings on a square meter basis. The square meter rates can be determined using capitalization or depreciated replacement cost. This method is preferred because LGUs generally have good building area records, rents are sometime hard to confirm, and capitalization rates may not be reliable. The square meter rates are readily applied in determining the values for individual properties within a mass appraisal process.

In the example cited, it would be appropriate to apply Php7,500/m^2 for land suitable for apartments, and Php12,500 as the added value of five-year-old apartments in good condition. As a result, the earlier exercise did not attempt to develop a Depreciated Replacement Cost element. Given that the Replacement Cost New of the apartments is Php14,000/m^2, the drop in value from new is Php1,500 over a five-year period. To check if an even rate of depreciation was adopted, this would be Php300 per annum which is just over 2%, and based on other material examined, is likely to be in order.

The illustration above demonstrates the information that may be gained from sales and how this information may be analyzed and applied.

LGUs are unlikely to use individual capitalization valuations in the regular course of applying SMVs. However, it is an available method. More likely, LGUs will use capitalization tools in analyzing transactions in order to derive units of value for buildings of various commercial or industrial nature and land values.

DISCOUNTED CASH FLOW

The Discounted Cash Flow (DCF) is a method of determining the value of a property (or any asset that generates income) by anticipating the future cash outflows (expenditure) and cash inflows (income) on a periodic basis and by determining the net cash flow per period (usually annual), and then recalculating these cash flows to represent their present value. These future cash flows are recalculated ('discounted') to represent their value at a particular time, usually at the time when the calculation is undertaken, and become known as the present value.

The annual cash flows are discounted by an amount or factor that represents the opportunity cost and risk factors that exist from the time of the expected future cash flow back to the present.

The DCF is a valuation method where expected future cash flows applicable to a piece of real estate are discounted at an interest rate that reflects the risks of the project, the cost of money and any expectations of the investor.

The discount rate is established by two key elements. These elements are:

1. Time value of money. A developer or investor would prefer to have cash now than in the future. Thus, the investor will require some benefit or compensation to offset the delay in receiving this money — the further the future cash flow is, the lesser present value it offers.

2. Risk and uncertainty that the future may hold. The investor would require some benefit or compensation for putting their funds at risk due to the possibility that the expected cash flow may not materialize.

EXAMPLE 1

Assume that a single payment (cash inflow) of Php500,000 is due in 10 years. How much would an investor pay now to receive this payment? Inflation is expected to be 8% per annum. The present value of Php500,000 due in 10 years at 8% is Php231,600. Put it the other way, if an investor pays Php231,600 now at 8% per annum, then it would amount to Php500,000 in 10 years. In this example, the discount is purely for inflation - so a person who invested Php231,600 in a property now, in anticipation of receiving Php500,000 in 10 years, has really made no profit but just kept level with inflation. The property investor has not received any benefit from risking their money over a period of years.

Thus, an investor would normally require an amount to recover the risk factor and some profit in addition. It could be expected that an investor would require at least a 9% return. So when Php500,000 is due in years, the amount an investor would pay (discounted at 9% for 10 years),

is equivalent to Php211,200. Thus, approximately Php20,000 per year is gained over the 10-year period. This is a small amount of 'profit' for risking Php231,600 for 10 years. In reality, an investor would be seeking a much bigger margin. In this case, there is only one payment made at the start, then another one after 10 years. In normal circumstances of real estate, there would be monthly or annual cash-flows to the owner.

In the investment property example earlier discussed, the payment made at the start would be the purchase price (market value) of the property, and the cash inflow would be the annual rent plus the final value of the property if it was sold at the end of a specified period of years. Thus, a property investor usually receives annual cash flow and always has the property.

Example for Present Value of Money Cash Flow

In calculating the 'Present Value' of a cash flow over a period of time, the most accurate method is to base the calculation on the actual payment periods that would be expected. If the rent is to be received monthly, for instance, then the cash flows for the 'present value' calculation should also be done monthly. In the subsequent example, the cash flows are shown on an annual basis for a clearer illustration.

Consider a property owner's position in his property which provides the opportunity to receive rent for six years. The owner also has to make some payments for minor expenses associated with the property.

For the first three years the rent is set at Php120,000

For the second three years the rent is set at Php120,000 plus a contracted increase in the lease of 7.5% or Php9,000. The total rent is Php129,000 equivalent to Php120,000 + Php9,000.

The tenant pays almost all of the operational expenses of the building, thus, these are not expenses of the landlord. The landlord's expenses are estimated at only Php10,000 in the first year, increasing at 5% every year.

Net cash flow per year would be:
Year 1.	Php120,000 less Php10,000	= Php110,000
Year 2.	Php120,000 less Php10,500	= Php109,500
Year 3.	Php120,000 less Php11,025	= Php108,975
Year 4.	Rent Increase. Php129,000 less Php11,580	= Php117,420
Year 5	Php129,000 less Php12,160	= Php116,840
Year 6	Php129,000 less Php12,770	= Php116,230

Total overall rent at face value is Php678,965. However, this does not consider the fact that these rental payments occur over a period of years; thus, the receipt of income is delayed.

To undertake a simple cash flow analysis, each annual payment is determined and then discounted from the period it falls due and back to the present time. Assuming Php110,000 is due at the end of the first year, Php109,500 shall be due at the end of the second year, and so on.

To bring all this to its present value (i.e., to the present day or the date the cash flow is being considered for purchase), these annual payments must be 'discounted' due to the delay in receiving these payments. The discount rate is the percentage by which the future payments are reduced in order to arrive at the present value.

Discount rates can be determined in the market (market rates are the most reliable rate as this is what is used by investors) and may be linked to other forms of investment of a similar risk or linked to official rates. In this example, the actual percentage is not a key factor. A rate of 8% shall be adopted as the discount rate.

$$\text{NET PRESENT VALUE} = \frac{FV}{(1 + r)^n}$$

The cash flow is presented below.

Conditions:
- Inflation Rate is at 8% per annum
- Rent for the 1st three years is at Php120,000
- Rent for the 2nd three years will have an increase of 7.5% = Php120,000 + Php9,000 = Php129,000
- An average 5% per annum increase in maintenance cost from the Php10,000 base cost from the 1st year.

Figure 1: Cash Flow

Net Cash Flow per year

Year	Rent		Maintenance Expenses (Php)		Net Rent (Php)
1			10,000		110,000
2	Php120,000		10,500		109,500
3		less	11,025	=	108,975
4			11,580		117,420
5	Php129,000		12,160		116,840
6			12,770		116,230
	Total Overall rent at face value				**678,965**

(Cont...) Figure 1: Cash Flow

Year	Future Value (Php)	Discount Rate $\frac{1}{(1+r)^n}$	Present Value (Php) (rounded off)
1	110,000.00	0.925992593	101,852.00
2	109,500.00	0.85733882	93,879.00
3	108,975.00	0.79383224	86,508.00
4	117,420.00	0.73502985	86,307.00
5	116,840.00	0.68058320	79,519.00
6	116,230.00	0.63016963	73,245.00

By calculating the present value of the rent (as compared to the face value), the actual return is Php521,309 compared to a face value of Php678,965. The drop in value of nearly Php158,000 is due to the annual deferred income at 8%.

The longer the waiting period for the rent is, the lesser will be its value. At 8%, rent due in 10 years is worth, now, just under half its future value.

The further out the rent is, the less is its value. For example, receiving Php10,000 per year for 10 years at 8% has a present value of Php67,000. Receiving this same amount for 25 years, the present value of the rent is Php106,000, Php122,000 for 50 years, Php124,943 for 100 years. Its Present Value after 1,000 years is Php125,000. This may be a simple example, but it indicates the effect of time on value.

Thus, the 'future value' is not guaranteed. To a great extent, this does not matter as long as the method employed and the results obtained are similar to the methods and results used in the market. After all, the task is to determine the present value of a property as determined in the market by the sellers and buyers. If sellers and buyers are using cash flow models or values that go out 40 years and a distinguishable pattern or model is being used, then the appraiser should do the same. As with all valuations, the valuation process is to mimic the market.

In determining the value of a property, the appraiser must adjust all the future annual cash flows to the present time, and also consider into the equation the value of the property as a whole at the end of the expected cash flow period in line with market expectations. The mathematics of this situation is simple, whereas getting the inputs requires market research.

From a mass appraisal perspective, the DCF method of valuation would only be used to determine square meter rates for certain types of properties. LGUs are not expected to carry out DCF valuations on many, if not at all, properties. However, it may be necessary to carry out a hypothetical DCF to deduce the square meter values for land or buildings for these rates to be applied to properties of a particular nature. The DCF process is the means to establish the values to be applied.

Valuation of a forest land area subject to logging. Consider that a government forested land plantation of 1,630 hectares is leased by a logging company for a period of five years under a concession agreement. The concession imposes a 35,000m³ per annum maximum extraction rate. Typical annual logging extraction is 100m³ of timber per hectare as expected by the logging company, although this will vary due to terrain within the concession area. A selling quota is imposed permitting 50% of logs for export market and 50% for the local market.

The price of timber sold in the local market is Php5,000/m³, whereas it is sold at Php7,000/m3 in the export market. The cost of production is estimated at Php4,000/m³.

Table 2: Sample DENR-Approved Harvesting Schedule for Logging

Year	1	2	3	4	5
Annual Quota (m³)	25,000	30,000	30,000	33,000	35,000
Approved Area for Extraction (Ha)	250	300	300	330	450

The valuation process requires determining the market value of the concession by calculating the expected annual revenue, and then discounting to the present value based on the profit (percentage) the logging company is expecting from the activity.

EXAMPLE

Date of Valuation: 1 January 2010 which is Year 1.
Discount (Capitalization) Rate: 20% *(deduced from discussions with logging companies as to profit margins)*
The concession is not yet operating, but is about to commence.

Solution:

Table 3: Solution to Forest Land Exercise

Year	1	2	3	4	5
Expected m³ cuts *(based on logged area)*	25,000	30,000	30,000	33,000	35,000
Estimated Revenue *(50% of the logs for local market)*	12,500m³ x Php5,000/m³ = Php62.5M	15,000m³ x Php5,000/m³ = Php75M	15,000m³ x Php5,000/m³ = Php75M	16,500m³ x Php5,000/m³ = Php82.5M	17,500m³ x Php5,000/m³ = Php87.5M
Estimated Revenue *(50% of the logs for export market)*	12,500m³ x Php7,000/m³ = Php87.5M	15,000m³ x Php7,000/m³ = Php105M	15,000m³ x Php7,000/m³ =Php105M	16,500m³ x Php7,000/m³ = Php115M	17,500m³ x Php7,000/m³ = Php122.5M
Total Estimated Revenue	Php150M	Php180M	Php180M	Php198M	Php210M
Less: Production Cost	25,000m³ x Php4,000 = Php100M	30,000m³ x Php4,000 = Php120M	30,000m³ x Php4,000 = Php120M	33,000m³ x Php4,000 = Php132M	35,000m³ x Php4,000 = Php140M
Net Profit	Php50M	Php60M	Php60M	Php66M	Php70M

Using the Discounted Rate Method, the annual cash flows from the forest concession can be brought to a "present value" and then used to calculate the per hectare rate for the SMV.

Where: NPV - Net Present Value as of start of year 1.
F1 - Net Profit year 1
F2 - Net Profit year 2
F3 - Net Profit year 3
F4 - Net Profit year 4
F5 - Net Profit year 5
  i - Discounted Rate
  n - year

Net Present Value of the five annual cash-flows =

$$\frac{F1}{(1+i)^0} + \frac{F2}{(1+i)^1} + \frac{F3}{(1+i)^2} + \frac{F4}{(1+i)^3} + \frac{F5}{(1+i)^4}$$

Thus:

$$\frac{Php50M}{(1.20)^0} + \frac{Php60M}{(1.20)^1} + \frac{Php60M}{(1.20)^2} + \frac{Php66M}{(1.20)^3} + \frac{Php70M}{(1.20)^4}$$

= Php50M + Php50M + Php41.6M + Php38.1M + Php33.7M
= Php213,618,827 Net Present Value of Logging Concession for 1,630Ha
= **Php131,000/Ha**

As shown above, the value of one hectare of a forest logging concession in this particular locality is Php131,000. In isolation, this would not be sufficient to provide a convincing level for a mass appraisal of other concessions. However, calculating two or three more concessions with similar hectare values would provide confidence to the assessor in adopting this level of value (Php131,000 would likely be rounded to Php130,000 for SMV purposes).

The big variable with logging concessions is the volume of timber felled and removed every year. If logging volumes in the locality vary considerably, it is possible to adopt a Php/m^3 of logs as the comparative factor, in which case the earlier sample calculation can be refined.

Considering that one hectare produces $100m^3$ of logs. The land value per production in cubic meters is $Php1,300/m^3$ ($Php130,000/100m^3$). Thus, $Php1,300/m^3$ is the present value per cubic meter of the logging concession or the unit of value for SMV. To determine the value of a concession in the locality (which has a sample production rate of $125m^3$ per hectare), the calculation would be:

> **Total Concession Land area x Logging Volume per Hectare x Land Value per Cubic Meter (e.g., Php1,300/m³)**

The sample rate of $Php1,300/m^3$ is dependent on the extraction rate (cubic meter per year) being similar to the sample property (i.e., greater number of logs extracted toward the end of the concession). If the logging activity is uniform across the period, the value per hectare and per cubic meter would change in comparison to the illustration above, and would have a higher value due to a greater proportion of the income being brought in during the earlier period of the concession.

For SMV purposes and in the event that the LGU does not know the per annum production quota for the rate per hectare (i.e., how many cubic meters in each year), it is appropriate to spread the annual production activity equally across the life of the concession. This calculation relies on knowing the total expected harvest over the life of the concession.

LAND AND BUILDING RESIDUAL TECHNIQUES

A legitimate, but generally non-preferred, method of determining land value is the Extraction Process or 'Residual Method'. The 'residual' and extractive methods are used in the valuation process to determine the value of one component of a property by deducting the value of other components from the full value or sale price. This is different from the accounting concept of residual value, where the 'residual' remains after deducting the selling or handling costs.

In this approach, the value of land may be determined by establishing the value of the property overall (i.e., land, buildings, and other improvements), then subtracting the value of the building

and other improvements in order to determine the land value alone. In effect, the land value is the residual amount after deduction of improvements. This method can be used in the case of an actual sale of an improved property, in order to deduce the land value of that site. The method can also be used when there are no buildings on a site and a hypothetical building and improvements are envisioned. The property, as a whole, is then valued. Thereafter, the 'value' of the hypothetical or imaginary building and improvements is deducted, thus, resulting in the remainder of the value being attributable to the land.

This process can be used for any type of property (i.e., residential, commercial or industrial) but is probably best in the case of those properties that generate rent and can be valued in the first place by the capitalization method, assuming that simple direct comparison is not appropriate.

In adopting such a procedure, the actual value of all items that contribute to the total value of improvements must be included when making the deductions. Deducting the 'value' of a main building is not that difficult, but the appraiser must also consider other improvements, such as paving, and outbuildings. The land value derived from residual method is not as reliable as that of from straightforward analysis of vacant land sales as there are a number of adjustments due to the improvements, and each adjustment is a potential error.

The residual method requires the appraiser to have the following information:
 • Reliable estimate of market value or actual market value sale of a property (preferred);
 • Good description of the building (construction type, size, condition, area, etc.);
 • Reliable building costs and depreciation rates or values of buildings of that particular age, style and condition.

HYPOTHETICAL DEVELOPMENT

The Hypothetical Development process allows the value of land and buildings to be determined even in cases when there may be no sale transactions. In its simplest form, this method can be just the process of visualizing a development property and then deducting the theoretical cost (value) of a building from the overall sale price to arrive at the land value as briefly discussed earlier.

In its fullest extent, a whole process can be done to calculate the value. This process replicates the actual tasks, process, and costs a developer would do when conducting an actual real estate development. The process done by an appraiser is a feasibility study identical to what a developer would do when considering the purchase of a major land parcel or property.

Using Hypothetical Development to determine land value, for instance, is a sophisticated 'extraction' or 'residual' process. In such a case, prior to buying a parcel of land and undertaking development, and prior to selling individual lots for a profit, a prudent developer will consider the market,

determine how much the lots will sell for, deduct all of the costs of development from the gross receipts, allow a profit factor, and ultimately arrive at the amount for which they can pay for the land. This feasibility process is calculated in the reverse order of what would take place in an actual development.

Consider the following example in which a developer might incur the following costs or allowances in an activity where the land is purchased, plans are prepared, roads and lots are developed, a profit is projected, and the lots are sold at a certain price. It is expected that 60 lots can be generated from this development set out below. A developer's costs and processes would likely be as follows:

EXAMPLE 1

Using the known value of raw land, determine the value of developed lots.

Given: Purchase a large parcel of land	=	Php12,000,000
Plus costs of: Survey, plans, permits and construction costs	=	16,000,000
Loan interest charges, advertising etc.	=	2,500,000
Total Investment	=	30,500,000
Mark-up (25% of total investment)	=	7,625,000
Total cost of development including mark-up	=	38,125,000
Selling Price of each Lot (Php38,125,000/60 lots = Php635,416.66) = Php		635,500

Considering that there are 60 lots to be sold and assuming that all lots are of similar nature, each lot would sell for Php635,500. If prices of lots in the locality are close to this price value and there is appropriate demand, then the development is expected to proceed and the developer would make the expected profit. Additional profit will be realized if lots are selling for more than the projected price. Otherwise, the developer would have to reconsider his options to proceed.

The calculation shown above can be worked in reverse, and this is the manner in which a feasibility study or valuation exercise would be undertaken in cases where there is a large piece of development land to be valued, but no direct sale prices of raw land within the vicinity are available. By establishing lot values or selling prices and by allowing all the components in the development process, the amount due (market value) for the large parcel can be determined even though there may have been no sales or asking prices for large parcels of land for many years.

EXAMPLE 2

<u>Using the known value of developed lots, determine the value of raw land</u>.

Given: Lot value of developed area = Php635,500

The calculation would look like this:

Total Projected Gross Income: 60 lots at Php635,500   = Php38,130,000

Less: Mark-up = 25% of total investment. *The mark-up can be calculated by considering that the gross income includes all the cost, plus the mark-up. Thus, the gross income is 100% of the total investment, plus 25% for mark-up.*

Mark-up is 25% so the calculation is (38,130,000/1.25) x 0.25   =   Php7,626,000
Thus balance available for development, interest, etc., and land   =   30,504,000
Less: Estimated development costs of construction, plans, fees, etc. =   16,000,000
      Loan interest charges, advertising, miscellaneous costs   =   2,500,000
Balance available for land purchase   =   12,004,000

The Php12,000,000 (rounded off balance) is the amount which would be available for the land purchase which could be then attributed as the value of the raw land. Thus, by understanding the market forces, attitudes and developer's margins, a value can be calculated for a development site (or building) although there may be no directly comparable sales.

The same process can be undertaken in a sales analysis to estimate the profit a developer would have made, as long as the gross realization can be calculated (from real sales) from the purchase price of the land (as a whole) and the development costs and interest. Specialist practitioners in this field have a good grasp of all the elements within the development process and can determine market value with reasonable accuracy.

EXAMPLE 3

Using the known rental rates per square meter, determine the value of commercial lot. Find the value of the vacant land in a commercial area.

• Land size is 20m x 25m = 500m^2
• Supports four individual ground level retail shops each 100m^2 (5m x 20m) with an area for unloading/casual storage
• Building Unit Construction Cost = Php5,000/m^2
• Pavement = Php45,000 (100m^2 at Php450/m^2)
• Fencing and gate = Php40,000

The ground level retail shops (if constructed) would rent out for Php1,100/m² per year, whereas the 2ⁿᵈ level offices would rent out for Php675/m².

Thus: Gross rent for the shops = 4 x 100m² x Php1,100 = Php440,000.
Gross rent for the offices = 4 x 100m² x Php675 = Php270,000.
Total Rent = **Php710,000**

In this case, as the hypothetical shops are new, the rent could be 'capitalized' directly at the 'gross' or total rent level. Capitalization is a valuation method based on the relationship between rent and market value (sometimes referred to as capital value vis-a-vis the value of the capital money tied up in an investment). It is common when undertaking a capitalization of rent to make an allowance in any year for maintenance and possibility of vacancies; thus an allowance could be made, but in this example direct gross (i.e., total) rent is used.

In this sample locality, it is established (by discussions with owners and brokers) that where information is available, shops generally show about a 9% to 10% return on the capital investment. As this site is in a very good area where risks are low, we would adopt 9% as the appropriate rate of return on the investors' capital (capitalization rate) for the property.

Based on capitalization, this property, as a whole, has a value of Php7,888,888 or Php7,900,000 (Php710,000/0.09), which could now be considered its market value.

Now that the market value has been calculated, we can determine the land value by deducting the new cost of such buildings from the value.

Market Value	=	Php7,900,000
Less: Value added by main building:		
New Building (no depreciation)		
800m² (8 shops x 100m²) at Php5,000/m²	=	4,000,000
Paving	=	45,000
Fencing and gates	=	40,000
Total Construction	=	4,085,000
Value attributable to land	=	3,815,000
Unit value [Php3,815,000/500m² (total land size)]	=	**Php7,630/m²**

In such circumstances, the residual technique can be done as shown above. In cases when the value attributable to the land comes near the actual purchase price of the lot being considered, it would generally be appropriate to adopt the sale transaction as a base for market value.

When there are insufficient sales to determine the value of land, other approaches may be adopted. The extraction or residual procedure uses the cost approach and requires subtracting the value of improvements from the total improved sale price/value. By using this method,

an appraiser would subtract the 'value added' of the buildings from the total property value to arrive at an indicated land value.

EXAMPLE 4

The value of the whole property is known; determine the value of land.
Transacted property, 400m² land with two-storey building of 300m² on each level:

Sale price of property in good location (shop with dwelling above) = Php6,500,000
Less: Value added by building (deduced from sales analysis) = 3,100,000
Indicated land value = Php3,400,000

Thus, the land unit value is expected to be Php3,400,000/400m² = Php8,500/m²

Assuming that this deduced value seems reasonable, then the value of Php8,500/m² for land could be adopted in this location. The assessor/appraiser can search for other sales to support this value. These may be land sales only or deduced from other transactions.

The same principle of determining the residual value (land) can be used by taking the sale price, less the depreciated replacement cost of buildings from the total selling price/value. Where possible, direct market information should be used.

EXAMPLE 5

The value of the whole property is known including depreciation; determine the value of land.

Given: House and lot sold recently for Php1,120,000
Land Area = 240m²
Floor Area = 112m²
Type III (Fair Quality)
RCN = Php8,000/m²
Building Age = 10 years
Depreciation Allowance = 42.5%
Improvements (Concrete Pavement and Fence) = Php85,000

Solution:

Sale Price:		Php1,120,000
Less: Depreciated value of house		
RCN = 112m² x Php8,000	Php896,000	
Depn = Php896,000 x 42.5%	Php380,800	
Dep. Value of the House	Php515,200	
Plus: Improvements		Php85,000
		Php600,200
Residual Value for Land		Php519,800

Value of Land per m² (Php519,800/240m²) = Php2,165.83/m² (or Php2,200)

This procedure to arrive at either land or building values should be applied to a sample size of properties in the market area large enough to give a range of values. The extraction method is less reliable than the direct comparison approach and should be used carefully.

3

Mass Appraisal Process in Developing the Schedule of Market Values

MASS APPRAISAL PROCESS

The preparation and application of the Schedule of Market Values (SMV) is a mass appraisal process which facilitates the appraisal of multiple properties at a given date by a systematic and uniform application of appraisal methods and techniques which allow for statistical review and analysis of results. The mass appraisal technique adopted in preparing the SMV is best called the *'market related cost approach'*, which is a blend of the cost and direct sales comparison approaches to value.

Mass appraisal is the process of valuing many properties at the same time. In arriving at the valuation factors used in the mass exercise, individual elements (i.e., peso per square meter of value) which make up the mass appraisal are more likely derived from analysis of individual properties or group of properties. In doing a general revision of values, it is likely that many individual analyses will be conducted (in the same manner as in conducting individual valuations) to obtain the best results.

Thus, what may appear to be examples of individual valuations are examples of sales analysis processes and their implications. There is little or no difference in the analysis of market information between a mass appraisal or individual appraisal. The only difference between the two is the manner in which the results are applied to achieve the end result.

The advantage of using a mass appraisal system is that it creates value estimates quickly (compared to individual valuations) at a given date and at a relatively low cost. These estimates are not substitutes for individual valuations but are used for broad-based taxation purposes. Furthermore, only a mass appraisal system can address the question of uniformity and equity in valuation on a large scale at a set date.

In mass appraisal, the assessors and appraisers should understand and know the correct use of recognized valuation methods and techniques necessary to produce and communicate credible mass appraisal outputs. The foundation of an effective mass appraisal system is collection and maintenance of accurate and current property details and property market data. Mass appraisal can be prepared with or without computer assistance. While computer technologies have made mass appraisal more efficient, it has not altered the basic process.

Figure 2: Mass Appraisal Process in SMV Development
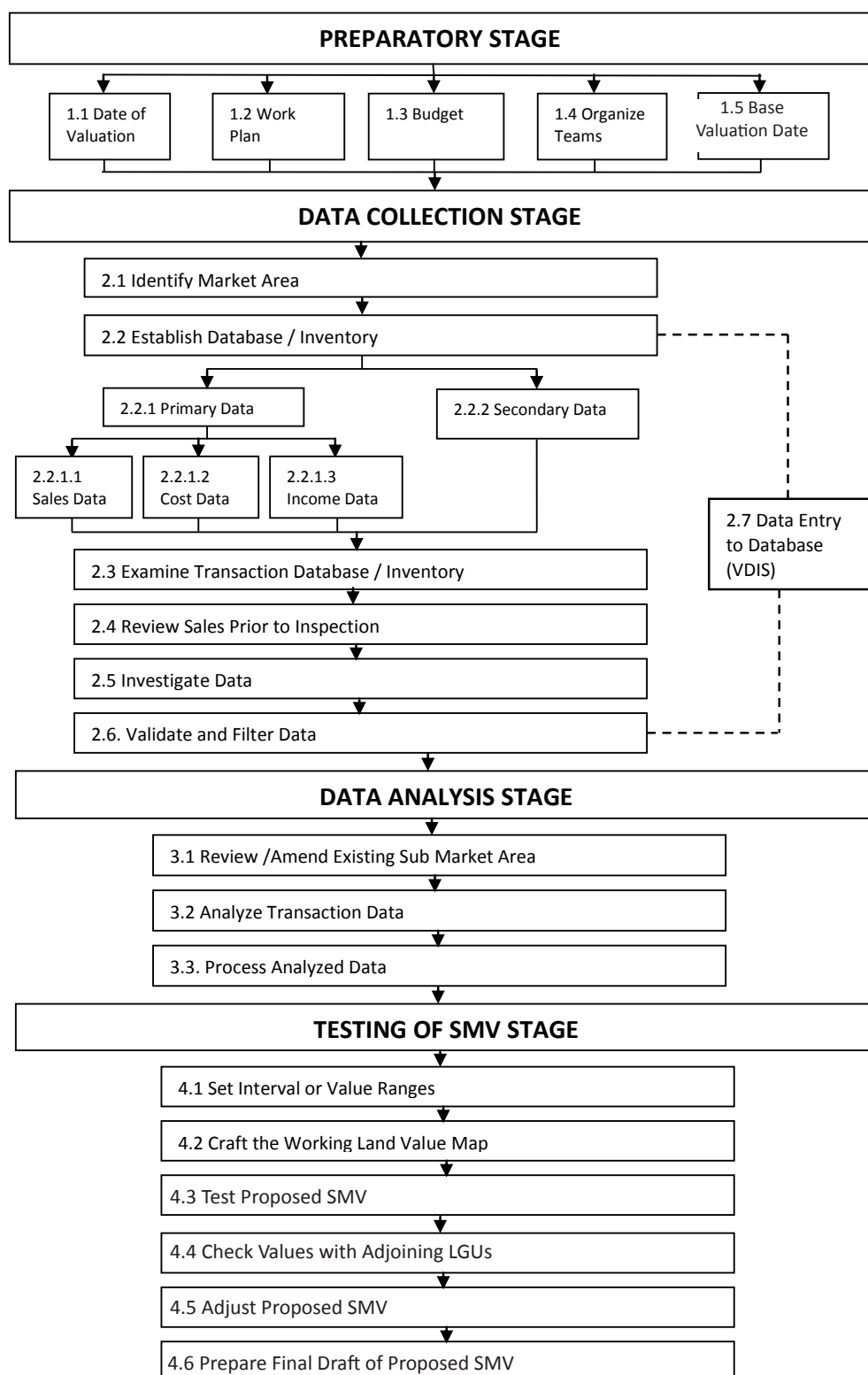
DEVELOPING THE SMV

Preparing the SMV properly is essential in developing an efficient process in the Assessor's Office. Figure 2 sets out the stages in developing an SMV using mass appraisal for taxation purposes. Individual LGUs may need to vary the sequence, depending on their capacity requirements such as availability of staff or other resources, accessibility to information, and other variables. These activities usually occur between January and September before the proposed SMV is submitted to the Sanggunian.

In developing this sequence of tasks, individual LGUs should consider the start and end dates, and arrange their timetable and task scheduling to fit the local situation. The whole SMV revision and subsequent implementation of tasks will, for most LGUs, take two years. LGUs which have established or maintained good property records and up-to-date transactions database will find the process to be streamlined and easier at some stages (particularly data collection and/or analysis stage/s).

The four major stages of the SMV development are: (1) Preparatory Stage, (2) Data Collection Stage, (3) Data Analysis Stage, and (4) Testing of SMV Stage.

1. PREPARATORY STAGE

In accordance with Sections 202, 212, and 219 of the Local Government Code, the three-year cycle comes about as a result of requirements for property owners to submit a sworn statement of their property value every three years, and for assessors to prepare a schedule of market values and to undertake a general revision of real property assessments. The preparatory activities are necessary to develop the SMV and conduct a general revision of real property assessments. The preparatory stage is composed of the following steps:

> **1.1 Identify the 'Date of Valuation'.** The date of valuation is the reference date of values to be considered in preparing the schedule of market values. The date should be set in accordance with the Local Government Code, or any subsequent relevant legislation. Since the Local Government Code provides that a general revision must be conducted once every three years, the dates of property values to be considered should be at most three years old. As much as possible, the dates should be closest to the revision date, provided there is a maximum amount of time to collect transaction data. From the assessor's perspective, the 1st day of January in the first year of the revision process is the most appropriate reference date of valuation. It would be a good practice of the assessor to establish a database of values per specific location in a quarterly basis in order to establish ready database and to create a property value index.

1.2 Prepare a Work Plan. An overall work plan and timetable must be developed identifying the major tasks and time-bound activities. The work plan should highlight the resources (personnel, equipment, and materials) requiring support from the LGU, and the potential impediments to the successful revision of values. Individual units of the Assessor's Office will need to develop their own work plans in accordance with their respective functional responsibilities and the overall expectations for the undertaking.

1.2.1 Developing Valuation Models. A Valuation model should be developed for mass appraisal purposes. This is a strategy that helps identify factors that influence value (e.g., square meter of urban lands, hectares in agricultural lands). All three approaches to value - the cost approach, the sales comparison approach, and the income approach - are modeled for mass appraisal.

Identify the kind of strata (by class, by geographic location, by social class or income class, etc.) to determine various market areas. Commercial and income-producing properties should be stratified by property type. In general, separate models should be developed for apartment, warehouse/industrial, and retail properties. LGUs with large jurisdictions may further stratify apartment properties by type or by area, or may develop multiple commercial models.

1.2.1.1 The Cost Approach. Cost approach is recommended for properties such as buildings and other structures when the structures are not for income purposes. This should be clearly verified in the field. Current construction costs should be based on the cost of replacing a structure with one of equal utility, using current materials, design, and building standards. Costs of individual construction components and building items should also be included to allow adjustments should some features differ from the base specifications.

The three types of depreciation – physical, functional and external or economic -- must also be determined during field inspection.

1.2.1.2 The Sales Comparison Approach. The Sales Comparison Approach is recommended when there are sufficient current sales records in the area inspected. This approach estimates the value of a subject property by analyzing the sales prices of similar properties. Care should be taken especially on the reliability of sales data. Interviews with both buyers and sellers within the area will authenticate sales or would make the corresponding adjustment/correction to the values.

1.2.1.3 The Income Approach. The income approach is generally the preferred valuation method when reliable income and expense data are available, along with well-supported income multipliers, overall rates and required rates of return on investment. It is usually applied within commercial and industrial areas. This should be clearly identified in the field inspection report.

Table 4. Sample Productivity Plan

PROJECT/ACTIVITY PLAN			Budgetary Requirements: Gen Fund : Php _____ 20% DF: Php _____	
TITLE: (title of the project/activity) (e.g., GENERAL REVISION OF PROPERTY ASSESSMENTS)			SECTOR: (either general services, social services or economic services)	
Time	Activity	Responsible	General Fund	20% DF
Jan 1 to Jan 15, First Year	1. Development of Valuation Model • Cost Approach • Market Approach • Income Approach • Special Purpose properties	Offices of Provincial, City and Municipal Assessors	PS: Php _____ MOOE: Php ___ CO: Php ____	PS: Php _____ MOOE: Php ___ CO: Php ____
Jan. 1 to June 30, first year.	2. Market Area Identification and Data Gathering • Acceptance of sworn statements declaring true values of real property to be filed by real property owners/administrators. • Data Gathering within identified Market Areas	Offices of Provincial, City and Municipal Assessors	PS: Php _____ MOOE: Php ___ CO: Php ____	PS: Php _____ MOOE: Php ___ CO: Php ____
July 1 to September 30, first year	3. Consolidation and analysis of data and preparation of preliminary schedule of Market Values using: • Market Approach • Income Approach • Cost Approach • Special Purpose Properties	Offices of Provincial, City and Municipal Assessors	PS: Php _____ MOOE: Php ___ CO: Php ____	PS: Php _____ MOOE: Php ___ CO: Php ____
July 1 - October 15, first year	4. Preparation of final schedules of Market Values	Provincial and City Assessors and Municipal Assessors of municipalities within the Metropolitan Manila Area	PS: Php _____ MOOE: Php ___ CO: Php ____	PS: Php _____ MOOE: Php ___ CO: Php ____
October 15 - October 31, first year	5. Submission of Schedules of Market Values to the Sanggunian for enactment through an Ordinance	Provincial and City Assessors and the Municipal Assessors of municipalities within the Metropolitan Manila Area	PS: Php _____ MOOE: Php ___ CO: Php ____	PS: Php _____ MOOE: Php ___ CO: Php ____
November 1, first year – January 31, second year.	6. Enactment of ordinance adopting the Schedules of Market Values	Sangguniang Panlalawigan or Panlungsod or Sangguniang Bayan of a municipality within the Metropolitan Manila Area	PS: Php _____ MOOE: Php ___ CO: Php ____	PS: Php _____ MOOE: Php ___ CO: Php ____
Total			**PS: Php _____ MOOE: Php ___ CO: Php ____**	**PS: Php _____ MOOE: Php ___ CO: Php ____**

1.2.1.4 Special-Purpose Property. Special purpose properties are not valued using mass appraisal techniques, but it is still important to identify their locations and the kind of treatment they need. Specific approach or approaches need to be identified in its valuation.

1.3 Prepare Budget. Revising the values is an investment and can contribute substantially to the LGU's annual income. The Assessor's Office prepares the SMV. A budget for the proper allocation of resources must be approved and secured to ensure that tasks will be done properly.

Table 5. Sample Format of Proposed Budget for SMV Development

Maintenance and other expenses	Account Code	Past year (X) Php	Current Year (Y) Php	Budget Year (Z) Php
Travel Expenses	831	520,000	680,000	400,000
Office Supplies Expenses	849	670,000	450,000	600,000
SMV, Data Collection and Other Forms/Templates	848	230,000	300,000	300,000
Fuel, Oil and Lubricants Expenses	852	25,000	200,000	200,000
Repairs and Maintenance of Office Equipment	882	11,000	75,000	100,000
Repairs and Maintenance of Land Transport Equipment	878	12,000	60,000	80,000
Maintenance/Storage of SMV Data	845	5,900,000	8,580,000	6,000,000
Fund for SMV Campaign/Promotional Activities	840	110,000	150,000	150,000
Maintenance of Valuation Database Information System	837	523,0000	746,000	540,000
Other Maintenance and Operating Expenses	950	218,000	475,000	300,000
TOTAL MAINTENANCE AND OTHER OPERATING EXPENSES		**8,219,000**	**11,716,000**	**8,670,000**

1.4 Organize Teams. Adequate staffing and training should commence early in the revision period to ensure that tasks are achieved efficiently. Staff who understand their roles in the overall process and who appreciate the significance of their own work outputs are likely to perform better than those who are less informed. The field supervisor should ensure that teams in charge of data collection do their tasks and use their time efficiently in undertaking inspections. Supervisors are responsible for checking and verifying the accuracy of the materials collected from the field, and ultimately, for deciding if the inspected properties are suitable as evidence of market value.

As early as January 1st of the first year, teams should already be formed. Ideally, two teams should be created – the data gathering team and the database and value analysis team. Additional personnel may be needed for this purpose. Both teams need to know the overall objectives of the activity. The assessor should train the personnel based from the valuation model and the calendar of activities. To ensure that data are gathered according to the prescribed standards, weekly or biweekly evaluations or meetings are required.

1.5 Establishing the Base Valuation Date. One of the significant elements in any valuation is the date at which the level of values is determined; often referred to as the 'date of valuation' in the Philippine Valuation Standards. The date of valuation refers to the date the value estimate applies. This, therefore, is not the date when the valuation was actually undertaken, the date when the inspection was made, or the date when the valuation report was signed. These dates pertain to the 'reference date'.

Whereas the reference date could be the 1st day of January or the 1st day of July per assessment, all values should be adjusted to the level of July 1 to October 15 prior to the submission to the Sanggunian concerned. The date of submission by the Assessor to the Sanggunian will be the Base Valuation Date. In case the schedule of market values will be approved at a date other than scheduled, the basis of the value will still be the date submitted by the assessor. The date of approval of the Sanggunian is the effectivity of the values.

Calendar of Activities. Pursuant to the provisions of Sections 212 and 219 of the Local Government Code, the DOF issued Local Assessment Regulations No. 1-92 and No. 1-04, prescribing an assessment calendar which governs the calendar of activities for conducting the general revision of real property assessment. Such assessment calendar provides, among others, the preparation of the Schedule of Market Values by the assessors.

Table 6. The Assessment Calendar

ACTIVITY	LGU Official/s Responsible	PERIOD
1. Acceptance of sworn statements declaring the true values of real property to be filed by real property owners/administrators.	The Provincial and City Assessor and Municipal Assessors of the municipalities within the Metro Manila Area.	Jan. 1 to June 30 of the first year
2. Analysis of data that have been gathered and preparation of the preliminary Schedule of Market Values.	The Provincial and City Assessor and Municipal Assessors of municipalities within the Metro Manila Area.	July 1 to September 30 of the first year
3. Preparation of final Schedules of Market Values	The Provincial and City Assessor and Municipal Assessors of municipalities within the Metro Manila.	Not later than October 15 of the first year
NOTE: The first three activities are part of mass appraisal process in SMV development preparatory to the conduct of general revision of real property assessment.		
4. Submission of the Schedule of Market Values to the Sanggunian concerned and conduct of public hearings.	The Provincial and City Assessors and Municipal Assessors of municipalities within the Metropolitan Manila Area	Not later than October 30 of the first year

(Cont.) Table 6. The Assessment Calendar

ACTIVITY	LGU Official/s Responsible	PERIOD
5. Enactment of Ordinance adopting the Schedules of Market Values	The Sangguniang Panlalawigan or Panlungsod or Sangguniang Bayan concerned.	Not later than January 31 of the second year.
6. Publication of the Schedules in a newspaper of general circulation in the locality or posting in the Provincial Capitol, City or Municipal Hall and in two other conspicuous public places.	The Provincial and City Assessors and Municipal Assessors of municipalities within the Metro Manila Area	Not later than February 28 of the second year.
7. Preparation of Field Appraisal and Assessment Sheets, Tax Declarations and Notices of Assessment and mailing or delivering of said notices to property owners.	The Provincial and City Assessors and Municipal Assessors of municipalities within the Metro Manila Area	Not later than September 31 of the second year.
8. Preparation of Assessment Rolls and the copies thereof sent to Provincial, City and Municipal Treasurers.	Provincial and City Assessors and Municipal Assessors of municipalities within the Metro Manila Area	Not later than November 30 of the second year.
9. Effectivity of the revised Real Property Assessments.	Provincial, City or Municipal Assessors	Not later than January 1st of the third year.

2. DATA COLLECTION STAGE

In gathering market data, all the necessary information must be collected (in a regular and systematic manner) and validated before conducting any data analyses in order to arrive at evidence-based results. A comprehensively collected market data can be organized for storage and convenient access, generally in a computer, such as an electronic filing system or database.

2.1 Identify Market Area. A parcel of real property is an integral part of a market area or neighborhood. It is not and cannot be treated separately from its environment or surroundings. By determining the characteristics of the market area, the assessor can make better estimates of the values of the properties in it. The assessor can also determine the most suitable approach (whether market approach, cost approach or income approach) to determine the values of the properties. A market area is a homogeneous group of properties that share the same or similar characteristics, or which values are influenced by similar physical, social, economic, governmental and environmental factors.

A residential market area takes on the characteristics of the individuals living in it (generally on one family dwellings). There could be various levels of residential market areas. Similar interests, social and economic status, level of development, related traditions and mutual desires group people into a residential market area.

Commercial and industrial market areas are areas where the land use is devoted predominantly to commercial or industrial pursuits. They are grouped into one market area because they have a homogeneous grouping of buildings or business enterprises.

In the same manner, agricultural market areas are areas where the lands are predominantly agricultural and remain to be agricultural in the long term. Agricultural market areas could be grouped separately depending on the ability of the land to produce an agricultural crop. Therefore, agricultural lands suitable for vegetables may be grouped separately from agricultural lands for inland fishing or cattle raising.

The assessor should also identify transitional market areas. This means that agricultural market areas are changing into residential or commercial market areas. This is a great challenge to the assessor because the value is difficult to determine and the highest and best use of each property must be carefully determined. As a rule, values should first determine the direction of the development. From thereon, the assessor can make his judgment to determine as to what extent (in terms of time and area) the highest and best use of the property should be applied for valuation purposes. This can be done by considering the provision of actual used prescribed in the Local Government Code.

In general, the assessor should consider two factors to determine the value of a market area – quality and functionality. These greatly depend on the kind of development in the area, as characterized by the desirability of people to use it. The appropriate type of development maximizes the value of the property. Although railways are desirable to industrial areas, they may not be desirable to residential areas. Therefore the kind of development in the area either increases or decreases the property's desirability.

The market area boundaries may consist of well-defined natural or man-made boundaries or they may be well-defined by a distinct change in land use or in the character of the inhabitants.

Government zoning ordinances clearly define market area boundaries. However, the assessor should be keen to note that similar physical, social, economic, governmental and environmental factors that makes up the actual use and highest and best use of the properties is the basis to identify the market area.

2.2 Establish a database/inventory. Establishing a database/inventory and assembling all available and relevant information should be done early in the general revision of values. The bulk of this material comes from the details contained in the ownership records and assessment

rolls already held by the LGU. This material should be stored in a readily accessible and orderly database. The Assessor's Office must update its records (if not regularly updated), particularly on the newly discovered and identified real property units (RPUs). The database should include all RPUs within the LGU, an application available in the Valuation Database and Information System (VDIS). The information in transacted properties should be particularly extracted and placed in a sales database. This is to ensure that they can be used for analysis should they be considered as market value transactions. Transacted properties can be established by examining the concerned Tax Declarations.

Market Data (primary data) can be stored by hard copy or electronically in a database system, such as the VDIS. Electronic data storage should provide for easy and rapid search and recovery of information.

All data, principal or complementary, that may be obtained from the market need to be validated with other sources of information.

Figure 3: Property Market Data Sources
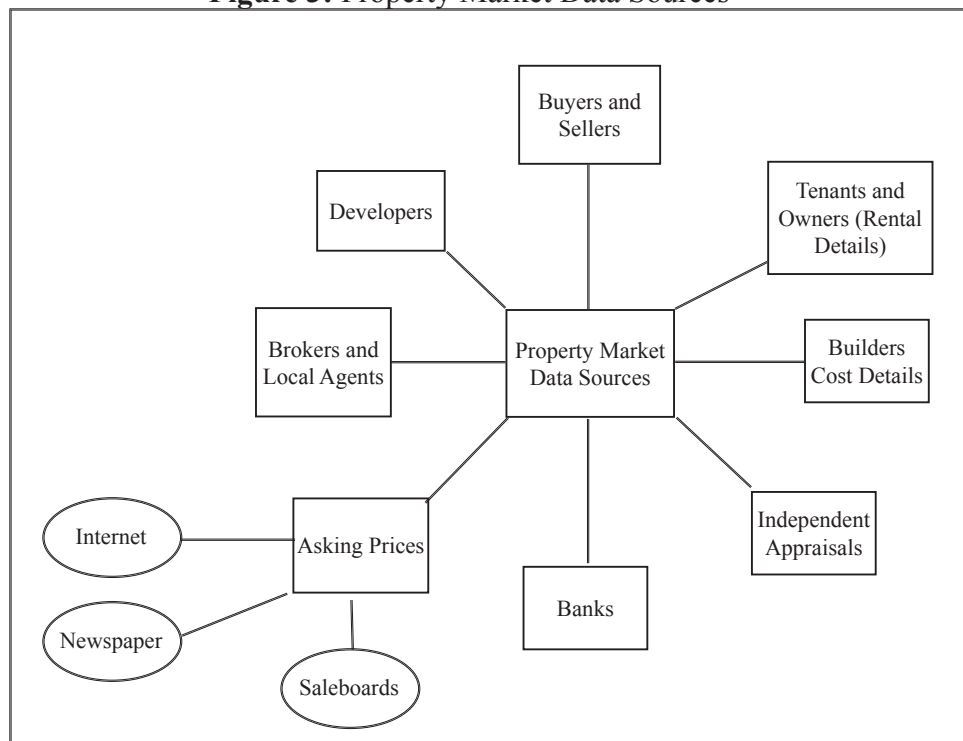
2.2.1 Primary Data refers to the information collected directly by the LGU from transaction records, the Registry of Deeds (ROD), and Tax Declarations which may be lodged directly into the database. Primary data are usually reliable as to the fact of a transaction occurring; however, other relevant information such as the date, the price and other factors considered

in the transaction need to be verified. This verification process can be done by direct contact, through field work and/or interviews, with a party to the transaction. Genuine sales transactions information collected by the Assessor's Office is the most reliable source of information that need to be fastened in the valuation process of the assessor. In the case of brokers or realtors who may have involvement with specific sales, the information they provide with regard to specific transactions can be considered as primary data.

2.2.1.1 Sales Data can be obtained from:

a. Registrar of Deeds and Notaries Public: Statement of Sales Values. This source of information are readily accessible but not particularly reliable. To be sure of the facts, the buyers (or sellers) of the property must be consulted about the details of the transaction.

b. Assessors: Tax Declaration. Assessors, as the custodians of the sales records, are likely to be aware of transactions. However, the market value still needs to be confirmed with other sources.

c. Appraisers. They are a good source of information as they deal with property and value all the time. However, it is best to separate sales prices from appraisals. Although the sales data collected by the appraisers can be used as primary data, their appraisals should be regarded as secondary as they are merely opinions of experts.

d. Banks. They can be a source of information as they certainly have access to transaction records of the properties they lend; however, banks are often reluctant to provide information relating to their clients, and the information they may supply could be appraisal information rather than sales information.

e. Buyers and Sellers. They are generally considered reliable sources as they are the direct parties to the sales transaction and could be expected to know exactly what is involved. However, caution must be observed in relying on the data as the transaction may not reflect the true intention of the contracting parties.

f. Other sources such as Sales Agents, Brokers and Developers. These people certainly know the true transaction price and should be considered as a reliable source. When dealing with brokers and developers, it is important to confirm that reference is made to the same property. It is common for brokers to rely on their memory of a transaction, and at times they inadvertently confuse prices and dates of sale with other transactions they have handled. Documentary evidence will be valuable as a means of verification.

2.2.1.2 Cost Data. In the early stages of the SMV development, the Assessor's Office needs to obtain cost information. Cost information are those elements in the appraisal process that are based on cost. These include new cost for various types of construction and various building types (residential, commercial, retail, etc.), as well as raw material and labour costs for agricultural properties. The construction costs will be the starting point for many of the assessments of improved components of properties. It is appropriate to commence cost data collection in the early stages of the revision process, as this data may take a few months to properly assemble and apply to sample properties and model buildings.

In dealing with cost as an element to be included in the general revision, only the cost that contribute to value must be included and should remain independent from any cost that are for the convenience of a particular buyer. Information is available from (1) builders and developers, (2) local government sources, (3) buyers, and/or (4) architects.

In the case of agricultural properties, costs are essential to determine net cash flow and profitability.

2.2.1.3 Income Data. The following are sources of income data:

a. Rent. Rental values should be considered in the same manner as sale prices. Is the rent amount being discussed or shown on the lease document the full or only partial amount of payment? In some cases, other payments are made at the start of the lease, or various incentives applied and tenants may (or may not) be paying for the service charges associated with power, water, and other utilities, etc. If such extra items are included in the overall payments by the tenant, then the actual rent equivalent may be different to the rent shown on the lease (mostly an issue with commercial property). Information is available from (1) managing agents, (2) landlords and tenants, (3) local government offices, and/or (4) notaries public.

Asking prices and advertisements indicate the amount a seller or landlord would like to obtain for a property. Asking prices are only an indication of the possible transaction price. In most cases, asking prices can be negotiated down, thus, extreme care must be taken in adopting asking prices as actual rental prices.

On the other hand, asking prices by banks and organizations that have taken over a property due to defaulting mortgagors or to rate arrears for example, may be well below market value, as these organizations tend to make their selling price decision based on the debt, and not necessarily on the actual value. Thus, this information must be treated carefully. Nevertheless, realistic asking prices can be helpful in supporting sale prices of other properties, and in supporting the views of the appraiser when there may be few actual sales. In some occasions, there will be few reliable sales, and the appraiser may have to search for further information.

b. Income from Yield. These are income derived from a typical and suitable agricultural activity.

2.2.2 Secondary Data. Secondary data are information from sources that are not directly linked to the transaction. Secondary data can be obtained from brokers and realtors with regard to general activity, from other appraisers, as well as from the newspaper, public notices, opinions or information shared within the neighborhood, etc. These information may be accurate, but need to be verified before being considered.

Secondary data should be viewed in the light of supporting conclusions that will be reached from the primary data and sales analysis. Secondary data, such as opinion value, are often not time-specific, may only be the recollections of individual brokers, etc., and sometimes have not gone through thorough consideration, thus affecting the credibility and reliability of information.

Opinions. Opinions of neighbors or property professionals working in the area do not directly represent market evidence. It is a poor practice to allow opinions of others to have undue influence on any particular appraisal or on the SMV. The following are sources of these sets of data:

- Buyers and Sellers
- Banks Brokers and
- Local Agent Developers
- Tenants and Owners
- Independent Appraisals
- Internet (World Wide Web)

Although an opinion cannot be considered a reliable source of SMV, it may be used as a point of reference to further the data gathering.

2.3 Examine Transaction Database/Inventory. Transactions data stored in a database need to be carefully examined to determine whether, at least on paper, they appear to represent market value. Transactions that are obviously non-market should be marked as such and then retained in the database as a record which may require further investigation. This database provides the valid material on which much of the revision is based. The most useful data are those arm's-length transactions occurring close to the reference date.

2.4 Review Sales Prior to Inspection. At this stage, valid sales from the transaction database should now be thoroughly reviewed and sorted by location and use (commercial, residential etc.) for both vacant (land) and improved properties. These sales information need to be investigated, and buyers, sellers or brokers need to be interviewed in order to verify the conditions of the sale and the purchase price. Close examination and cross referencing with existing records and assessment rolls will identify some transactions which involved related parties or other 'non-market' influences and these need not be inspected and analyzed. Note that very obvious non-market transactions should have been eliminated in the earlier stage.

2.5 Investigate Property. All sales data considered relevant should be physically inspected to ensure reliability. The buyer, seller or broker should be interviewed to confirm the details of the sale. Factors such as related parties, seller terms, owners of adjoining properties should be clarified through interview or examination of information. Interviews will establish the reliability of the transaction and, in most cases, will result in determining the true purchase price. The true purchase price is the market level which will serve as basis for SMV preparation.

2.5.1 Conduct of Field Inspection and Verification
This undertaking is a local knowledge-gathering exercise and the following matters are pertinent:

1. Locate and review each Field Appraisal and Assessment Sheet (FAAS). Check the accuracy of the Property Identification Number (PIN) in areas where a cadastral survey has been completed, the Assessment of Real Property (ARP) number, and the tax map listing. The address and physical location of the property must also be matched to the tax map.

2. Inspect the Property. LGU appraisers in the field must carry any valid ID and a letter of introduction, and secure permission before any inspection can be undertaken or any data gathering is done.

The following is a checklist of essential observable attributes of real property that should not be overlooked in conducting field inspection:

a.) Land
- Geographic location (e.g., topography, squatters)
- Physical condition (e.g., shape, size, swamp)
- Land improvements (e.g., plants, structure)
- Legal limitations (e.g., zoning, easements)
- Services available (e.g., utilities, amenities, facilities)

b.) Building
- Structural characteristics (e.g., kinds of construction materials, design)
- Building conditions (e.g., good, fair, poor)

- Legal limitations (e.g., zoning, easements)
- Lay-out (e.g., functionality)
- Services available (e.g., utilities, amenities, facilities)

c.) Machinery
- Specification (e.g., brand, rated capacity)
- Country of Origin (e.g., imported, local)
- Condition (e.g., brand new, reconditioned, second hand)
- Accessories (e.g., contrivances)

A summary of the inspection process is set out below. However, comprehensive information and guidance can be used in Appendix 1: Residential Data Collection Sheet and Appendix 2: Commercial, Retail and Industrial Data Collection Sheet.

Measure property improvement and plot diagram. Measure the property and its improvements, all outbuildings, and yard improvements such as driveways and retaining walls. Plot these measurements on a permanent diagram sheet, keeping the outbuildings and yard improvements in proper relationship to the residential improvement on the permanent diagram sheet.

Check Measurements. To avoid unnecessary return trips to any inspected property, all measurements should be confirmed on the diagram.

Property Class. Properties must be classified properly after inspection. Lands shall be classified as Residential, Commercial, Industrial or Agricultural. In the same manner, buildings shall be classified according to use and type. Machinery shall likewise be classified as Residential, Commercial, Industrial or Agricultural.

Dealing with Influences. When creating tax maps or applying values to individual properties on the FAAS, and when dealing with non-standard lots, various factors can be applied to increase or decrease values to reflect the influence of main roads, slope, view, any special advantages or detriments, etc. These factors are analyzed and recorded on a table set out on the border of the relevant map or somewhere equally convenient.

Table 7. Sample Analyzed Effect of Influences

Influence	Effect on base value
Significant slope down	-16.0%
Corner	+11.0%
Good view	+20.0%
Squatters nearby	-17.5%
Interior lots	-16.0%

When multiple factors apply, a careful judgment has to be made. It would be proper to individually appraise the property to ascertain the effect on its base value. A property that exhibits all the above influences does not necessarily yield the cumulative sum of the adjustment factors.

Figure 4 shows a cross section of an influence involving properties that are situated in a sloping down piece of land. Although both properties have the same negative effect from sloping, *Property R* will still have a positive value because of its view which has a positive effect.

2.6 Collect, Validate and Filter Data. All data must be collected, evaluated and filtered before they are entered into the database and subsequently be used to calculate values. In filtering, supervisors should review whether all the information gathered by the field staff are valid and accurate. Data gatherers should be aware of the factors that would eliminate a transaction from being used in calculating the SMV. If there are still market transactions that need to be considered even if each has already been reviewed, then these should be included in the database. Note that the Data Collection Sheets (DCS) have provision for the supervisor to indicate 'market evidence'.

Appraisals of any sort are only as good as the

Figure 4. Illustration of Influences that Affect Values
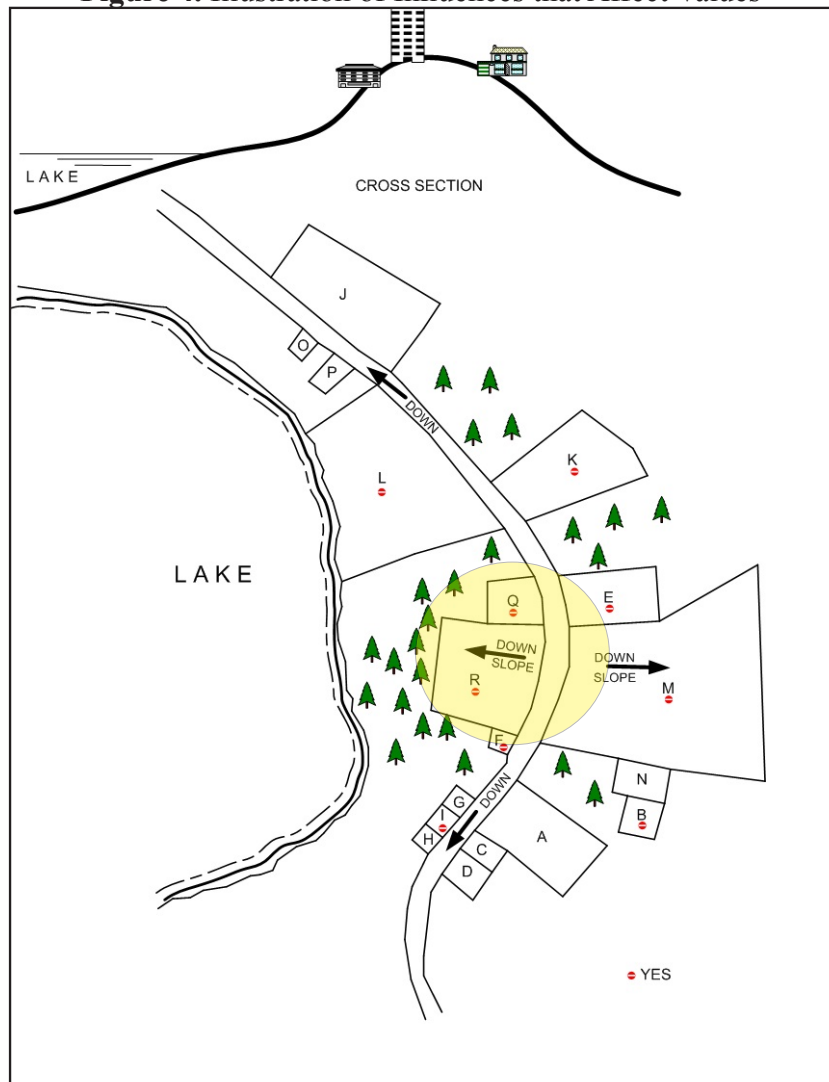
material on which they are based. The observation *'garbage in - garbage out'* certainly applies to valuations and appraisals and good and reliable data must be available from the LGU database or from whatever credible sources.

2.6.1. Collection Format. Information on property transactions can be collected from many sources, and can be stored in many ways. Within the Assessor's Office, transaction data are kept in lists and in folders relating to the various barangays or property types within the LGU. This information also appears on individual FAAS. The VDIS is an ideal system for storage and research of sales transactions. To be properly useful, this information (or at least a summary of it) should be displayed on appropriate barangay maps and be readily available, in order to serve as trigger for geographic-based detailed analysis.

To record appropriate information, Data Collection Sheets (DCS) must be used for market data collection. The DCS is discussed in detail in Appendix 1 and Appendix 2. The DCS will help in collecting the necessary data to be entered into the database. In contrast with the FAAS (which contains detailed information on several aspects of a property that are used in assessment), the DCS focuses on transaction-related information and is formatted as a questionnaire. The VDIS will absorb information from both the DCS and the FAAS. Since DCS forms are attributed to sales transactions, only few properties would qualify in the DCS.

2.6.2 Sales Data Integrity. The quality of the data must be of high level in order to ensure that the analyzed values (which are then applied to produce the SMV) are correct. Not all records and materials obtained or analyzed regarding sales transactions are suitable to be use as evidence of 'market value'.

The best sales evidence to use are those sales/transactions which meet the requirements of the definition of market value.

The assessors/appraisers must be aware of property transactions that may have unusual conditions influencing the sale. Some unusual conditions or factors are:

1. Sales that contain large elements of seller finance or unusually low cost loan (can induce a buyer to spend more);
2. Sales which include payments other than cash;
3. Sales where furniture or other items are included; and
4. Sales where the price was negotiated sometime in the past (not likely to be 'current market value') where the sale is recorded at a later date.

The assessor/appraiser must be careful with: (1) Forced sales, (2) Connected parties, (3) Adjoining property owner, and (4) Special purpose buyers, such as those that need a particular site for a very specific purpose and those that are ready to pay extra to get the particular site that gives them the exposure they need.

2.6.3. Data Integrity code. To verify the quality of data in the database, a scoring or code needs to be displayed to serve as a guide in determining the reliability of this material. Unfortunately, not all information may be reliable. It is up to the appraisers or assessors to determine the reliability of information. It is possible to adopt four or five levels of integrity.

> **Possible codes:**
> 1 = Highly reliable: e.g., sale details confirmed from multiple sources
> 2 = Reliable: e.g., details from knowledgeable or usually reliable source
> 3 = Guide only: e.g., adjusted Asking Price
> 4 = Probably not reliable: e.g., price was negotiated sometime in the past
> 5 = Known to be unreliable: e.g., unsubstantiated hearsay

Optional Step[1]:

2.7 Data Entry Into the Valuation Database Information System (VDIS). The Valuation Database and Information System (VDIS) is designed to store and process market transactions, individual appraisals, property rental or lease, building construction and machinery cost information. It is a tool to assist assessors and appraisers in performing property valuation. The system uses local appraisal terminologies based on the Assessment Manual and the Mass Appraisal Guidebook to make it straightforward and simple to use.

The VDIS facilitates the development of a national transaction, rental and cost database of the BLGF to provide easy access of information to support the LGUs in the preparation of SMVs. The data attributes required for sales/direct comparison, cost, and income capitalization approaches are captured and made available by the system, thereby, allowing users to perform these valuation approaches.

To ensure quality of data and sustain the continuous building of data, a "data build procedure" is prepared to guide the LGU Assessor's Office. A more detailed discussion of the procedure is found on Appendix 3: LGU Data Build Process Model.

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[1] Unless otherwise covered by a subsequent policy issuance mandating the adoption of VDIS. A DOF Order is anticipated to be issued mandating LGUs to adopt the DCS and VDIS as tools in preparing the SMV.

Table 8. Valuation Database and Information System (VDIS)

Features	• The system can be configured to various operational environments, such as at the Central Office, Regional Office, Municipality, City or Provincial LGU setting
	• Tested and ready for stand-alone deployment, or under LAN/WAN environment and Virtual Private Network
	• A web interface is available in the Internet to provide access to the national database for remote or public users
	• The Property Index Number (PIN) is one of the primary keys of the system. Linkages can be established to a GIS or software like the LGU Property Systems for wider applications
	• The system utilizes "Data Replication Technology" for redundancy and high availability of data
	• Interface modules for storing and processing data, and maintaining the system;
	    a. Setup Files and Code Maintenance
	    b. Record Viewing Module
	    c. Reporting Generation Module
	    d. Record Management Module (Sales, Appraisals, Rental, Cost, etc)
	    e. Utilities (Security, Database Maintenance, etc.)
	• Availability of a User's Manual for the system operators, and an Administrator's Manual for the systems administrators
	• Allows export of data to *.xml or *.xls file format for easy data analysis.

Functions	• Stores, creates, and calculates: a) property sales transactions data for Residential, Commercial, Agricultural, Industrial, Special Purpose, Minerals and Timberland properties with data attributes for market, income and cost analysis approach, b) property appraisal data (property not sold) for Residential, Commercial, Agricultural, Industrial, Special Purpose, Minerals and Timberland properties, c) property rental/ lease data, and d) images/picture per subject property (at most eight pieces) • Building construction cost (material, labour, professional fees, and other service fees) • Machinery Cost • Building construction/reproduction modelling tools • LGU Schedule of Market Value (SMV) Database • LGU Schedule of Base Unit Construction Cost Database for Building • Annual Production Cost Database for Agricultural Land • Gross Income & Production Expenditure Database & Modeling Tool for Agricultural Land • Production Expense Statement for Agricultural Land • Statistical & Analysis Reports at the LGU level

(Cont...) Table 8. Valuation Database and Information System (VDIS)

Reporting Tools	• Property Sales Listings (by Geographic Area, period)
	  ✓ Sales for a Property
	  ✓ Sales for a Party
	  ✓ Property Sales Data (Land, Building and Machinery)
	• Appraisal Listings (by Geographic Area, period)
	• Rental / Lease Cost (by Geographic Area, period)
	• Building Construction Cost
	• Machinery Cost
	• Land Market Statistical Data
	• Code File Listings	

LGU Operational Benefits	• Regular or on-demand appraisal requirement
	  ✓ Taxation
	  ✓ Owner request for appraisal/re-appraisal request
	  ✓ Court appraisal request, litigations, etc.
	  ✓ Expropriations, disposal of government assets, etc.
	• Periodic preparation of SMV
	• Local land sector development
	  ✓ Land market or appraisal statistical information/profile
	  ✓ Planning/decision support
	  ✓ Property investment initiatives or programs	

Other Benefits and Beneficiaries	LGU Assessor	Improve SMV Property market information Appraisal trends Information sharing with other LGUs High availability of data
	LGU Treasurer	Tax base estimation Reference for transfer fees
	Private Appraisers	Reduction of research time Improve quality of appraisal
	Realtors and Brokers	Reference in arriving at fair asking price
	Banks and Lending Institutions	Reference for mortgage lending/loan
	Public	Transparent market Informed decision Consistent value
	Government of the Philippines	Value close to market Accelerated land market
	Academe	Case study

3. DATA ANALYSIS STAGE

3.1 Review/Amend existing sub-market areas. The first step in the analysis stage is the review and amendment or confirmation of sub-market areas based on the criteria previously determined by the assessor. This will include geographical location, property classification (i.e., use or zoning), quality (e.g., although residential in a particular location, the property should be split into 1st class subdivision, 2nd class subdivision, general residential, etc.). Once these areas are confirmed, the information can already be analyzed. Some results of the analysis may not fit the pre-conceived sub-market areas, thus, the sub-market area boundaries or criteria may need to be adjusted based on the analysis.

A market area can be further defined as a grouping of similar land uses that are influenced similarly by the four forces that affect property value, such as physical, economic, governmental and social.

A market area should contain sufficient number of properties in order to gather adequate sales samples. Studies are conducted and compiled by market area/sub-market area to establish the basis for (1) Land Values, (2) Improvement Values, and (3) Market Adjustments.

Simple codes should be used to identify the location of sub-market groups on any maps or associated reference material (e.g., R code for residential, C code for commercial, I code industrial, A code for agricultural, etc.) A numbering process can be added to the coding to reflect the sub-classification appropriate to the selected sub-market area (R1, R2, R3, etc.). The criteria for sub-classification of properties is discussed in Chapter 4: Preparing the Schedule of Market Values.

The assessor or supervising appraiser should oversee the development of the market areas and sub-market area identifiers and appropriate market area studies.

As previously mentioned, market or sub-market areas may well be separated by physical boundaries or distance. However, LGUs will have many packets of property that each fit the same sub-market area. For instance, if properties are similar in type, size, price and value, and have appeal to a similar portion of the buying public even though these properties are not located near each other, then they would likely form part of the same sub-market group and each sub-market group would have R1 properties.

The changes in values in one of the locations can possibly affect, and consequently, change the values in the other locations. Verified sales can be plotted on maps in a systematic manner, e.g., indicate on the lot or in tabular form.

Averaging in Valuation. It is tempting to simply add up all the sale prices in a location, divide it by the number of sales, and come up with an average lot price or square meter rate. In some cases, averaging may work as a baseline information if the average is taken for a set of homogeneous elements. However, averaging is not applicable for heterogeneous elements as it can skew results easily. In averaging, there are three measures of central tendencies (mean, median, and mode). Table 9 illustrates the degrees of deviation in averaging, using the three measures of central tendencies:

Given:

Sale 1. 10m x 24m lot sold recently at Php720,000
Area of 240m^2 shows value of Php3,000/m^2

Sale 2. 12m x 27m sold recently at Php972,000
Area of 324m^2 shows value of Php3,000/m^2

Sale 3. 14m x 28m sold recently at Php1,100,000
Area of 392m^2 shows value of Php2,800/m^2

Analysis:

Table 9. Analysis of Averaging Sales Examples

Sale	Price (Php)	Area (m²)	Rounded Unit Value (Php)	Percentage of Deviation (%)		
				from Mean	from Median	from Mode
	A	B	C	D	E	F
			A/B	(C-m)/m	(C-md)/md	(C-mo)/mo
Sale 1	720,000	240	3,000	2.27	0.00	0.00
Sale 2	972,000	324	3,000	2.27	0.00	0.00
Sale 3	1,100,000	392	2,800	(4.45)	(6.67)	(6.67)
Average Deviation				**0.0**	**(2.22)**	**(2.22)**

Unit Value
Mean   m   2,933 $(C_1 + C_2 + C_3)/3$ or (Php3,000 + Php3,000 + Php2,800)/3
Median   md   3,000   Middle value when arranged in ascending order (Column C)
Mode   mo   3,000   Frequently occurring value (which is Php3,000)

** % of deviation are expressed in absolute value

By using the unit value of each sale as the test data, the average value with the smallest deviation is either the median or mode. Therefore, the appropriate unit value is Php3,000/m^2.

3.2 Analyze Transaction Data. After the sales information have been assembled and verified, each transaction must be further processed to extract the information needed in the analysis process, and ultimately, determine the base rates of values for land and buildings. In the end, a unit value for land in different locations will be established, as well as the value added by various improvements.

Unit values extracted from sales should be written on the maps (in pencil) to indicate the market sales evidence. When there are sufficient transactions, these values are likely to show higher values on main roads and lower values on other properties, which are far from a town center or other feature. In the cases of agricultural land, values may alter due to soil type or water availability, for instance.

Properties with improvements (e.g., house, factory, offices, shops, etc.) cannot be fully analyzed unless the typical land values for the area has already been established. To determine the value added by building, the land value must be extracted from the overall sale price.

Rental returns and capitalization. Analyzing sales based on rental returns and capitalization rates may be necessary in high value commercial or retail locations in order to establish an investment-based capital value. This would also be useful in analyzing the land and/or building value by extraction method, and in checking values at a later date. Once land and improvement values have been determined by depreciated Replacement Cost New method, the resulting value can be checked by verifying that the land value plus the improvements value equates close to the capitalized value.

Consider results that are out of line (exceptions). Despite careful research and sifting of information, some results may be well out of line as compared with other analyzed information. When exceptions occur, the facts of the property should be checked. If there are no apparent discrepancies in the transaction, then these results must be treated carefully, and must be eliminated from the SMV decision making process when necessary.

Exceptions can be analyzed in light of their distinct features and by comparing them with the standard property. This would account for the variation in the unit values in a logical manner, which can be accordingly applied when determining the values of similar properties. Good results may indicate adjustments for extra large size, perhaps corner influence, wide frontage, etc. These results lead toward a table of adjustments or factors applied to properties or portions of properties which do not fit the standard description.

3.3 Process Analyzed Data

3.3.1 Determining Typical Base Lot Descriptions. Having plotted the analyzed sales rates (separate values determined for land and improvements), the assessor and team leaders are now required to determine the typical base or the 'standard' land parcel for the market area. This will be the typical parcel for which the typical land unit value will apply. This will vary from location to location and for property types as well.

3.3.2 Preliminary Cross Referencing of Sub-Market Areas. After identifying the base values, each sub-market set of values must be compared to other relevant sub-markets. For example, values for a 1st class subdivision in one part of the LGU should relate to similar subdivisions. These need not be identical, but must reflect their relationship with one another. Similarly, low grade industrial rates should be less than quality industrial, even though they may be in different locations. The task of checking and making adjustments, if necessary, are part of establishing uniformity and equity across the range of values to be adopted.

3.3.3 Unit Building Construction Cost Schedule. Cost schedule must be developed along with the transaction-based values. The costs obtained from suppliers and other sources should be checked against the previous cost schedule to verify the increase (assuming there is an increase) in the cost of items on the bills of materials and estimates. Some items will have bigger cost than others. There may be new products/materials being used and these need to replace old products. Staff members familiar with building construction should take a primary role in this activity.

Note that the VDIS has detailed costing schedules which can be populated with actual and local cost information. The VDIS provides for both detailed and overall costing of building and establishment of 'unit costs'.

3.3.4 Cross Reference Cost Schedule with Actual New Buildings. The cost used in determining values for SMV must include all elements for profit, labor, transport, etc. The true cost of a building is the cost a person has to pay to obtain a complete building constructed on their property, and not simply all the components added together. Builders, developers, new home owners, brokers and others can provide information against which the cost schedule can be checked. The cost schedule for buildings should result in overall square meter rates for the 'supply and delivery' of a finished building.

3.3.5 Establish Replacement Costs New (RCN). Replacement Cost New or RCN is the cost of constructing a finished building of any particular type/nature. The value arrived at should be the current value of a new building. The actual value when applied to an old building is computed by deducting its corresponding depreciation.

3.3.6 Review and Analyze Land and Improvements Sales. Older improvements (mostly buildings) will depreciate in value due to wear and tear, among other factors. Analyzing land and improvements sales by extraction method will reveal the depreciated value of improvements and will assist in creating a depreciation table for various types of buildings. Thorough analysis can provide a guide to value (as distinct from cost) of items such as paving, outbuildings and so forth.

3.3.7 Establish Depreciation Table. Depreciated values are determined by extracting the land value and the values of any miscellaneous improvements from the sale price to ultimately reveal the unit value of an aged building. This value will be less than the Reproduction Cost New and by

analyzing a number of sales, a typical rate of depreciation may be established. Depreciation rates may vary for specific properties dependent upon maintenance and individual circumstances. A table or matrix of depreciation must be established to enable rapid valuation of improvements.

When sales analysis is not enough to provide a reliable depreciation table, it is acceptable to establish a table based on economic life of a building. Such table should not automatically depreciate a building by a straight line method, but should attempt to reflect the real depreciation rate over the life of a building. The depreciation table must be more or less in accord with that of adjoining LGUs, assuming construction types, weather and other factors are similar.

3.3.8 Determine Value of Other Structures. Improvements which are not part of the main building must be included when establishing the SMV. Other improvements in a residential setting include fencing, paving, outbuildings, balconies and so forth. Commercial or industrial settings may include paving and fencing, external machine rooms, loading docks and a host of specialized items. These values may be determined by sales analysis, and other items by considering replacement cost less depreciation. These improvements must be included in the SMV, and can be referenced as unit value or as a percentage of the main building.

The adopted rates must reflect the depreciated value, especially for improvements that are exposed to extreme conditions. Other improvements may not contribute their initial conceived value as these are excess to the property.

4. TESTING OF SCHEDULE OF MARKET VALUES (SMV)

4.1 Set Interval or Value Ranges. The SMVs are not individual valuations. Value ranges must be established which encompass similar type/value land and improvement types. Ranges could have closer intervals at lower values and much greater intervals at higher value levels. With fewer ranges, properties are easier to classify and place, but the resulting value is more prone to errors.

Value ranges are set together with the draft SMVs, both compensating each other during their development.

Value Ranges. Value ranges are set for the different types of Real Property Units (RPUs) encountered within an LGU. Value ranges are usually rounded off to their nearest hundreds or thousands depending upon their interval. Most likely, there are several sets of value ranges for land within any LGU and these could include ranges for:

- Standard residential lots along the road,
- Standard lots within first class subdivisions,
- Standard lots in second class subdivisions,
- Standard lots in a general residential area, and
- Standard second grade retail lots.

In the case of buildings, the ranges (for each type of construction) can include (1) commercial/ industrial, and (2) residential. Value ranges also apply to other land and building classifications, e.g., commercial and industrial, etc.

There is little benefit in setting ranges for distinctive properties or when there are only a few of that type. It is more efficient to determine these values by calculating them individually.

In urban areas, the error factor in appraising can be reduced by setting the available ranges with less than 10% increment. No matter how close the value ranges are, there will still be properties that fall outside the range due to specific matters relating to particular properties, rather than errors in the range. It might only take an unrecorded garage on a FAAS to skew the value outside the acceptable range.

EXAMPLE:

Table 10. Determining the Average Increment

Sale	Unit Value (Php)	Increment (%)
1	1,900	
2	2,090	10
3	2,174	4
4	2,299	6
5	2,529	10
6	2,782	10
7	2,893	4
8	3,060	6
9	3,366	10
10	3,501	4
11	3,703	6
12	4,073	10
13	4,480	10
14	4,928	10
15	5,125	4
16	5,421	6
17	5,963	10
18	6,559	10
19	7,215	10
20	7,504	4
21	7,937	6

(Cont...) Table 10. Determining the Average Increment

Sale	Unit Value (Php)	Increment (%)
22	8,730	10
23	9,603	10
24	9,988	4
25	10,564	6
26	10,986	4
27	11,620	6
28	12,782	10
Average Increment		7 or 10

Beginning at Php1,900/m^2, the unit value gradually rises to Php12,782/m^2. Set ranges of values that adequately cater for all property value levels. As much as possible, avoid ranges exceeding 10% on either side of the mid-point.

For example, the nominated value of Range No. 1 (Php2,000/m^2) encompasses 10% values on either side, making the range from Php1,800/m^2 to Php2,200/m^2. In a total field of values from Php2,000/m^2 to Php12,000/m^2, this would result in 11 ranges as shown in Table 11.

Table 11. Sample Mid-Value Range

Range No.	Min Price/m^2 (Php)	Rounded mid-point Value for SMV/m^2 value (Php)	Max Price/m^2 (Php)
1	1,800	2,000	2,199
2	2,200	2,400	2,599
3	2,600	2,800	2,999
4	3,000	3,300	3,599
5	3,600	3,900	4,299
6	4,300	4,750	5,249
7	5,250	5,750	6,299
8	6,300	7,000	7,699
9	7,700	8,500	9,349
10	9,350	10,300	11,299
11	11,300	12,500	13,750

The values in this table have been rounded off to the nearest tens.

In analyzing Range No. 8, a sale price of Php6,300/m^2 is valued as Php7,000/m^2 or an increase of over 11%. Similarly, a property valued at Php7,699/m^2 is undervalued at Php7,000/m^2. To arrive at ranges closer to the true value of the property, the percentage increment may be adjusted to a lower percentage (e.g., from 20% to 15%), as shown below.

Table 12. Sample Low-end Value Range Table

Range No.	Min Price/m² of range and also adopted value for SMV	Max Price/m² in range is 15% greater than adopted SMV level (Php)
1	1,700	1,999
2	2,000	2,299
3	2,300	2,649
4	2,650	2,999
5	3,000	3,499
6	3,500	3,999
7	4,000	4,599
8	4,600	5,249
9	5,250	5,999
10	6,000	6,999
11	7,000	7,999
12	8,000	9,249
13	9,250	10,499
14	10,500	12,000

The value ranges in this table have been rounded-off to the nearest tens.

Decreasing the increment will increase the number of ranges, in this case from 11 to 14. To reduce the number of ranges to a manageable level, the ranges in the less populated groups of values may be combined. However, ensure that no resulting SMV values are deliberately 20% or greater or less than the true selling price.

EXAMPLE:

Consider an LGU with 45,000 land RPUs with unit values ranging from Php1,800/m² to Php11,000/m².

Table 13. Properties (Land Parcels) in Value Range

Range No	Min Price/m² of range and also adopted value for SMV (Php)	Max Price/m² in range is 15% greater than adopted SMV level (Php)	Number of RPU
1	1,700	1,999	50
2	2,000	2,299	150
3	2,300	2,649	200
4	2,650	2,999	600
5	3,000	3,499	1,000
6	3,500	3,999	4,000
7	4,000	4,599	9,000
8	4,600	5,249	15,000
9	5,250	5,999	12,000
10	6,000	6,999	2,000
11	7,000	7,999	550
12	8,000	9,249	100
13	9,250	10,499	100
14	10,500	12,000	50

Note that there are only few RPUs that fall within the range having the least unit values and the range having the highest values. There are only 50 properties that would fall in the Php1,700/m² to Php1,999/m² range and only 2,000 that would fall in the first five ranges, yet Range 8 alone has 15,000 properties.

A method to determine the coefficient of dispersion will be discussed in Chapter 7: Valuation Testing for Mass Appraisal. For the purpose of this exercise, assume that ranges 1 - 5 and 10 - 14 need to be collapsed. By considering a maximum of 20% increment, the ranges would look like Table 14.

Table 14. Properties in (Collapsed) Value Range

Range No	Minimum Range Unit Value (Php)	Maximum Range Unit Value (Php)
1	1,800	2,199
2	2,200	2,799
3	2,800	3,499
4	3,500	3,999
5	4,000	4,599
6	4,600	5,249
7	5,250	5,999
8	7,200	8,599
9	8,600	10,299
10	10,300	12,000

Given the lack of properties in the low value and high value ranges, and the lack of evidence to establish values, some of the lower value ranges can be collapsed. However, several ranges should be collapsed carefully as this will affect the reliability of the result. Having established the ranges, it is then incumbent upon the appraisers to test the values, as discussed in the chapter "Testing".

4.2 Craft the Working Land Value Map. The geographic distribution of the unit values can be plotted in a map at this point. The range of values should now be allocated on all the street frontage, sub-market areas and properties within a particular market area. These unit values will be the basis in adopting the final SMV. The values must be thoroughly cross referenced between locations and sub-market groups for consistency and relativity.

Maps and Visual Representation
The component values for land should be plotted on market area on an appropriately clear map, including the factors (such as landmarks, views, traffic flow, etc.) affecting property values. Transcribing the land and component values and other information on these maps would allow ready cross referencing from one sub-market group to another. Also, data transfer to the Tax Maps, which contain the information necessary for property taxation purposes, would be easier.

4.3 Testing the Developed SMV. The value of a particular property in the sub-market area can be tested by adopting the SMV. The actual sale of the property may not necessarily align with the SMV because of the adjustments on the ranges and an exact match is more likely a coincidence.

This is a one-on-one test against some sample sales. These are individual checks using a number of properties. The second test requires the results from one sub-market area to be checked against a similar sub-market area. It is also important to check a sub-market against the other sub-market areas. At this stage, a very strong pattern should emerge. A third test, which is statistical, should then be conducted to confirm (or otherwise) the reliability of the trial SMV. A simple coefficient of dispersion exercise (as discussed in Chapter 7) will clarify the overall reliability of the proposed SMV, and highlight any glaring inconsistencies.

4.4 Check Values of Adjoining LGUs. Part of the final adjustment is to check the SMV with the SMV of other LGUs for consistency of values, in coordination with adjoining LGUs.

4.5 Adjust the Developed/Proposed SMV. Whenever adjustments are made, the adjusted SMV needs to be re-tested based on data of adjoining LGUs.

4.6 Prepare Final Draft of SMV. After testing and re-testing, the SMV can be proposed and recorded on the land value maps of each barangay.

4

Preparing the Schedule of Market Values

INTRODUCTION

Under Sections 212 and 219 of the Local Government Code, before any general revision of real property assessment is made, a Schedule of Market Values (SMV) for different classes of real property should be prepared for each municipality or city in such form and detail as prescribed by the DOF.

Pursuant to the LAR No. 1-2007, the said schedule, together with an abstract of the data on which it is based, shall be submitted to the concerned Bureau of Local Government Finance (BLGF) Regional Offices for review to determine if it conforms with the provisions of the Local Government Code and the Local Assessment Regulations issued by the DOF not later that the 30th day of September of the first year of the General Revision Calendar prior to submitting to the Sanggunian concerned not later than October 30 of the same year for enactment of an ordinance.

The SMV provides the matrix and other parameters used in appraising and assessing real properties for taxation purposes. This should reflect the true current and market values of real properties in the locality.

The appraisal of real property should be based on the latest SMV prepared by the provincial assessor, the city assessor, or municipal assessor of municipality within the Metropolitan Manila Area, as embodied in an ordinance passed by the respective Sanggunian or local council.

The effect of various influences such as corner, frontage, depth, location or proximity to some other features of influence should be listed in the schedule, such that the calculation of the individual land values can be done efficiently and that the influence is incorporated in all relevant property values. When there are sufficient number of properties affected by measurable influences, these influences should likewise be incorporated.

The SMV contains lists of locations (mostly roads and streets) setting out the 'base unit values' for lands, as well as the classification of the land (i.e., Residential, Commercial, etc.). It is from this

schedule that the land value component of the total property value is determined and transferred to the Field Appraisal and Assessment Sheet (FAAS) for all real property units in a given LGU.

The SMV also includes Base Unit Construction Costs (BUCC) of buildings and other improvements. These are determined by conventional quantity survey processes, and are the subject of further discussion in this Guidebook. However, it must be reinforced that for appraisal purposes, the costs should be those costs that a buyer would actually pay, and include all manner of profits and fees, etc., that are passed on to the buyer.

Depreciation tables that form part of the SMV should be developed primarily from local research. This is further discussed in subsequent chapters in this Guidebook.

APPRAISAL OF LANDS

RESIDENTIAL, COMMERCIAL AND INDUSTRIAL LAND

As much as possible, the SMV for urban lands (which comprises principally residential, commercial, and industrial lands) should cover the full extent of area in the LGU.

Generally, market values for urban lands are enhanced by their proximity to commercial and government centers, educational and religious institutions, highways and availability of water, electricity, communication systems and transportation facilities, as well as accessibility to good roads and avenues.

Residential lands are valuable if they are accessible to employment opportunities and shopping, recreational, educational and cultural centers. Values of commercial lands depend upon their access to suitable markets, whereas industrial lands are valuable if they are accessible to sources of raw materials, roads, ports, electric power and labor.

Based on these influences on value, residential, commercial, and industrial lands located within the

contiguous urban areas of the LGU should be sub-classified into first, second, third, or more classes, and a schedule of base unit market value per square meter should be determined and fixed for each sub-class. The number of sub-classes for each class of urban lands should be left to the discretion of the provincial or city assessor, depending on the existing variations of value in such lands. The criteria established in this Guidebook may vary or may be modified to suit the actual physical developments and conditions within the locality.

However, lots located in the populous centers of barangays (separate from the contiguous urban areas) may not be sub-classified in accordance with the criteria herein referred to. A schedule of barangay street unit land value should be established independently based on the sales value as well as opinions on declared values of representative lots therein. For this purpose, a separate urban unit value map should be prepared for every barangay concerned. This will form an integral part of the SMV.

In case of highly or fully developed residential subdivisions, a schedule of base unit market values may be established independently based on the exclusive sales analysis on the lots of such subdivisions.

a. Establishing Benchmark Lot Values

In preparing the SMV, it is a good practice to have some benchmark lots. Selected as a standard lot or typical parcel from the market area, it serves as the base or model against which a ready check can be made to ensure that the values being developed are realistic. The lot does not have to be a sale property, but it should possess characteristics common to the majority of properties within the market area. The methods of sales analysis are discussed in the previous chapters of this Guidebook. However, these benchmarks or base lots (can also be house and land, if checking for improved values) should be established across all real property units within the LGU. These are valued individually (or in the case of a sale, are confirmed true sale prices) and provide a ready reference against which to check sales or values of other properties. If the appraiser is confident with the benchmark lot value as other sales or values come about, then the appraiser can instantly cross reference these to the benchmark lot in order to confirm if the sale price is valid. More particularly, as values are developed and applied during the mass appraisal process, these appraised values can be checked against the benchmark.

The identification of properties within the defined market area is based on the highest and best use (HABU) of the land, often referred to as the most probable use, anticipation, supply and demand, balance, substitution, and assemblage. These are all principles of appraisal that affect land value.

Traditionally, the 'actual use' is adopted as the basis on which a property should be valued. Applying this principle, while there is merit insofar as the property user is concerned, often does not result in

the proper market value. In the market value system, appraisers have no option but to consider the highest and best use or the most probable use of the property.

Unique or specialized properties, on the other hand, require separate and individual consideration. These are discussed in Chapter 6: Special Purpose Properties.

b. Identifying Lot Parcels by Random Selection

Random selection or sampling is the process of selecting samples from a given number of real properties in a sub-market area. There are two types of sampling techniques: the Probability Sampling and Non-Probability Sampling. From the two sampling techniques, the Probability Sampling is a sampling method wherein samples are chosen in such a way that each member of the population has a known, though not necessarily equal, chance of being included in the samples.

There are four types of Probability Sampling:

1.) Simple Random Sampling. Samples are chosen at random with members of the sub-market area having a known or sometimes equal probability or chance of being included in the samples.

Examples:
• Lottery. This needs a complete listing of the properties. The process is relatively easy for small populations but relatively complicated and time-consuming for large populations.

• Generation of random numbers/digit. This is a better and perhaps more efficient method for selecting a simple random sample. Computers and even calculators can be used to generate random digits, however, this needs a complete list of properties.

2.) Systematic Sampling. Samples are randomly chosen following certain rules set by the researchers. This involves choosing the kth number of the properties, with k = N/n, but there should be a random start.

Formulae: $k = \dfrac{N}{n}$

Where: k = period or intervals
N = total no. of properties
n = sample size

Example: Choose a sample size of 10 from a sub-market area of 500 properties, using systematic random sampling. N=500; n=10

Step 1: Determine k (period/interval); k=500/10=50
Step 2: Put the random start at 15
Step 3: Include in the samples of the following: 15, 65, 115, 215, 265,315, 365, 415 and 465.

3.) Stratified Random Sampling. This method is used when the number of real properties is too big to handle; thus, dividing the RPUs into subgroups (called strata) according to kind, classification, geographic location, such as municipality and barangay, etc., is necessary. Samples per stratum are then randomly selected while considering However, the sizes of the random samples to be selected from the subgroups must be considered. Best results are obtained when the elements within each stratum are much alike (homogeneous) as possible. If elements within strata are alike, the strata will have low variances.

A formula like Slovin's Formula is available for combining the results for the individual stratum sample into one estimate of the population parameter of interest.

$$\textit{Slovin's Formula:} \qquad n = \frac{N}{1+Ne^2}$$

Where: n = number of samples   e = margin of error
N = Total population

Example:
Population: 1,000;
Allowable margin of error = 0.05
Then, the sample size requirement is n = 100/(1 + 1,000 x 0.05²) = 286

The process that can be used may either be equal or proportional allocation. The latter chooses sample sizes proportional to the sizes of the different subgroups or strata.

4.) Cluster Sampling. Cluster Sampling is sometimes called Area Sampling. The RPUs are first divided into separate groups called Clusters. Each element of the RPU belongs to one and only one cluster. In Cluster Sampling, the members of the sample should be drawn from each cluster individually. In Area Sampling, clusters are sub-market areas or other well-defined areas. This sampling method provides the best results when the elements within the clusters are not alike (heterogeneous).

To illustrate its use, assessor or appraiser may want to determine the average unit values of Residential Lands grouped in sub-market areas in an LGU. In such instances, the appraiser may assume that there are 300 sub-markets in a given LGU. Hereon, one can draw a random sample of 30 sub-market areas using simple random sampling and then get a certain number of RPUs from each of the 30 sub-market area.

c. Developing SMV for Residential Land

CASE 1. Developing the SMV Using Sales/Direct Comparison Approach

Prepare a Schedule of Market Values for a predominantly residential area.

Sub-Market Area 1 = Residential
No. of Land RPUs = 850
5% of no. of RPUs = 42
Valid data = 32
Manner of selection = Systematic Sampling

Solution:
1. Compute the Unit Value: **UV = MV/Area**
2. Determine the Rounded Unit Value.

Table 15. Computing for Unit Value of 32 Sales Data Set

Sale	MV (Php)	Area (m²)	UV (Php)	Rounded UV (Php)
1	864,720	240	3,603	3,600
2	137,430	90	1,527	1,500
3	507,840	184	2,760	2,800
4	224,757	113	1,989	2,000
5	683,250	250	2,733	2,700
6	720,300	210	3,430	3,400
7	642,000	214	3,000	3,000
8	1,258,260	313	4,020	4,000
9	600,000	200	3,000	3,000
10	589,615	193	3,055	3,100
11	550,000	180	3,055	3,100
12	495,000	180	2,750	2,800
13	694,760	220	3,158	3,200
14	672,280	196	3,430	3,400
15	589,854	222	2,657	2,700
16	777,000	222	3,500	3,500
17	1,587,200	320	4,960	5,000

(Cont...) Table 15. Computing for Unit Value of 32 Sales Data Set

Sale	MV (Php)	Area (m²)	UV (Php)	Rounded UV (Php)
18	282,285	123	2,295	2,300
19	414,492	156	2,657	2,700
20	401,751	147	2,733	2,700
21	725,000	200	3,625	3,600
22	500,000	200	2,500	2,500
23	620,000	200	3,100	3,100
24	650,548	206	3,158	3,200
25	425,000	170	2,500	2,500
26	666,500	215	3,100	3,100
27	234,500	125	1,876	1,900
28	600,000	180	3,333	3,300
29	599,940	180	3,333	3,300
30	700,000	200	3,500	3,500
31	799,866	222	3,603	3,600
32	1,184,900	289	4,100	4,100

3. Sort Rounded UV from Least Value to Highest Value.
4. Compute the percentage equivalent of the interval of each Rounded Unit Values:

Interval CR = (Rounded UV CR - Rounded UV PR) x 100 / Rounded UV CR

Where: CR = Current Row
PR = Previous Row

5. Determine the Average of the Interval:
Average Interval = Summation of All Interval/Number of Intervals
Average Interval = 113%/31 = 3.65%

Table 16. Computing for Rate of Interval for Each Given Data of Rounded Unit Value

Sale	MV (Php)	Area (m²)	UV (Php)	Rounded UV (Php)	Interval (%)
2	137,430	90	1,527	1,500	
27	234,500	125	1,876	1,900	21
4	224,757	113	1,989	2,000	5
18	282,285	123	2,295	2,300	13
22	500,000	200	2,500	2,500	8
25	425,000	170	2,500	2,500	0
5	683,250	250	2,733	2,700	7
15	589,854	222	2,657	2,700	0
19	414,492	156	2,657	2,700	0

(Cont...) Table 16. Computing for Rate of Interval for Each Given Data of Rounded Unit Value

Sale	MV (Php)	Area (m²)	UV (Php)	Rounded UV (Php)	Interval (%)
20	401,751	147	2,733	2,700	0
3	507,840	184	2,760	2,800	4
12	495,000	180	2,750	2,800	0
7	642,000	214	3,000	3,000	7
9	600,000	200	3,000	3,000	0
10	589,615	193	3,055	3,100	3
11	550,000	180	3,055	3,100	0
23	620,000	200	3,100	3,100	0
26	666,500	215	3,100	3,100	0
13	694,760	220	3,158	3,200	3
24	650,548	206	3,158	3,200	0
28	600,000	180	3,333	3,300	3
29	599,940	180	3,333	3,300	0
6	720,300	210	3,430	3,400	3
14	672,280	196	3,430	3,400	0
16	777,000	222	3,500	3,500	3
30	700,000	200	3,500	3,500	0
1	864,720	240	3,603	3,600	3
21	725,000	200	3,625	3,600	0
31	799,866	222	3,603	3,600	0
8	1,258,260	313	4,020	4,000	10
32	1,184,900	289	4,100	4,100	2
17	1,587,200	320	4,960	5,000	18

6. Determine the Ranges at an interval of ± 5% or ± 0.05:

   Start by assuming a midpoint then compute the values of the lower and upper limits of the range at ±5% (refer to Row 1 Columns B, C and D of Table 17)
   a. C1   = Php1,500 (assume the lowest midpoint)
   b. B1   = C1 x (1.00 - 0.05)
              = Php1,425
   c. D1   = C1 x (1.00 + 0.05) - 1
              = Php1,574

   For the succeeding rows, start with the lower limit. Compute the midpoint, C2, at +5% and the higher limit from the rounded midpoint at +5%.
   d. B2   = D1 + 1
              = Php1,575
   e. C2   = B2 x (1.00 + 0.05)
              = Php1,700 (Rounded Off)
   f. D2   = C2 x (1.00 + 0.05) - 1
              = Php1,784 (Continue computing until the last row)

7. Count the number of sales that has UVs that fall within the range and then record under column E.

For example, in row 1, there is only one Unit Value between the range Php1,425 to Php1,574 which is Php1,500. In Row 2, there is no Unit Value that falls within the range Php1,575 to Php1,784. In Row 8, there are eight Unit Values that fall within the range Php2,940 to Php3,254.

Table 17. Sorting of Unit Values to Determine the Frequency or Highest No. of Unit Values that Fall Within a Specified Range

A	B	C	D	E
Range	Low 5% (Php)	Mid (Php)	High 5% (Php)	Freq.
1	1,425	1,500	1,574	1
2	1,575	1,700	1,784	0
3	1,785	1,900	1,994	1
4	1,995	2,100	2,204	1
5	2,205	2,300	2,414	1
6	2,415	2,500	2,624	2
7	2,625	2,800	2,939	6
8	2,940	3,100	3,254	8
9	3,255	3,400	3,569	6
10	3,570	3,700	3,884	3
11	3,885	4,100	4,304	2
12	4,305	4,500	4,724	0
13	4,725	5,000	5,249	1

8. Limit the number of ranges by combining Unit Values with fewer occurrences. By plotting the frequency distribution on a normal curve, the lowest values and highest values seldom occur. These ranges could be merged. To get the midpoint of the merged ranges, get the average of midpoints. Apply the Rounding Off Rule as necessary. The lower limit of the new range will be the lower value of the first range that was

Figure 5. Frequency Distribution of Unit Values
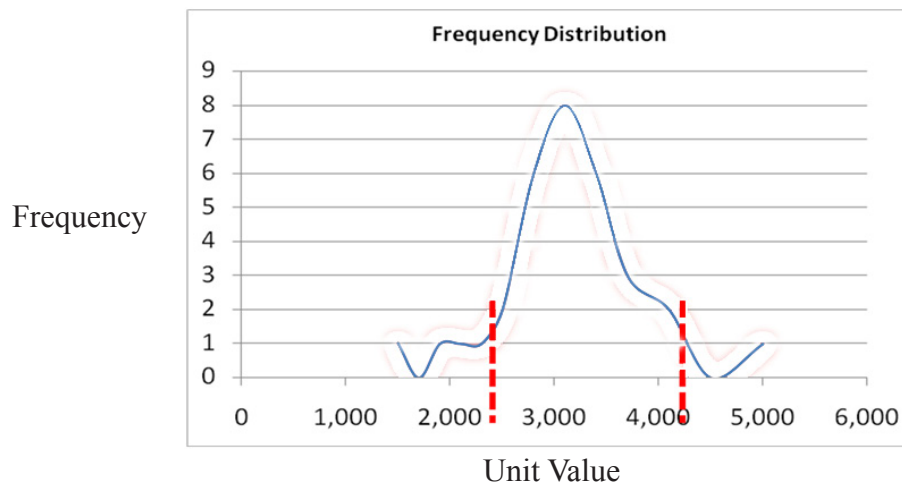
merged. The upper limit will be the high value of the last range that was merged.

Combining midpoints to determine the lower and higher limits of ranges.

Range	Mid (Php)	Freq
1	1,500	1
2	1,700	0
3	1,900	1
4	2,100	1
5	2,300	1
6	2,500	2
7	2,800	6
8	3,100	8
9	3,400	6
10	3,700	3
11	4,100	2
12	4,500	0
13	5,000	1

Range	Low (Php)	Mid (Php)	High (Php)
1	1,425	1,600	1,784
2	1,785	2,100	2,414
3	2,415	2,500	2,624
4	2,625	2,800	2,939
5	2,940	3,100	3,254
6	3,255	3,400	3,569
7	3,570	3,700	3,884
8	3,885	4,500	5,249

9. Arrange the midpoints from highest to lowest to get the Unit Values. Label the sub-classes accordingly, such as R1 (Residential first class), the sub-class with the highest unit value.

**Table 18. Sorting of Unit Values at Midpoints
to Establish Sub-Classifications**

Sub Class	Unit Value (Php)
R1	4,500
R2	3,700
R3	3,400
R4	3,100
R5	2,800
R6	2,500
R7	2,100
R8	1,600

Combining ranges should be approached carefully as it can increase the interval between midpoints and consequently overvalue or undervalue the properties.

10. Determine the Adjustment Factors and criteria using selected items from the sales data: Given the sale price, lot dimensions, land area and property description (column 5 of table below), compute the unit values (UV = Sale Price/Land Area). Analyze the characteristics of the lots based on the lot description and then establish

the base lot. In the following table, the base lots are Sales 9, 11 and 23. By using mean, determine the rounded unit value of the base lot (which is Php3,000/m²).

Subsequently, determine the percentage differences of the other lots with the base lot and note the differing characteristics.

Sale	Sale Price (Php)	Dimensions (m)	Land Area (m²)	Unit Value (Php)	Description*	Comment
9	600,000	10 x 20	200	3,000	Flat land, inside lot, no view or other factor	May establish base price (unit value) of typical lot = Php3,000/m². Needs confirmation from other sales
11	550,000	9 x 20	180	3,055	Flat land, inside lot, no view or other factor	In conjunction with Sale 1, appears base price unit value probably around Php3,000/m²
22	500,000	10 x 20	200	2,500	Inside lot, land drops from road to 1.5 meters	Land slopes down from road frontage. Sale price shows Php500 reduction from standard flat lot which has price of Php3,000/m². May indicate Php500 (17%) drop in price for sloping land
23	620,000	10 x 20	200	3,100	Almost flat land, slightly slopes down from road	Appears to confirm base price of Php3,000/m². No drop in value for slight slope
28	600,000	9 x 20	180	3,333	Flat lot, no view, located on good corner	Corner lot achieved higher price than standard lot. Extra Php333/m². Appears corner sites may sell for additional 11.1% (or 11%)
21	725,000	10 x 20	200	3,625	On higher part of subdivision, has slight slope (fall) from road, and has very good view	Higher lot with view sells for Php3,625/m². This is Php625/m² (20%) above base lot price. Slight slope probably no effect (reduction) as shown by Sale 4.

(Cont...)

Sale	Sale Price (Php)	Dimensions (m)	Land Area (m²)	Unit Value (Php)	Description*	Comment
12	495,000	9 x 20	180	2,750	Flat corner lot but near to old railway line and illegal settlers.	Shows reduction in price of Php250/m² from base lot. Probably due to illegal settlers. If normal, corner lot probably would have sold for around Php3,300/m² (Sale 5) so can deduce that squatter presence reduced transaction from probably Php3,300/m² to Php2,750/m². This is reduction of 17.5% from standard corner price. Needs more transactions to confirm influence of illegal settlers.
30	700,000	10 x 20	200	3,500	Good flat piece of land on main road	Main road location indicates Php500/m² above base price of Php3,000/m². This is 16% increase over base price.

* The description should include all other characteristics such as type of road, surrounding properties and amenities, and other factors that makes up its highest and best use.

Computation:
% Adjustment low land
= (UV Sale 22 - UV Sale 9)/UV Sale 22 x 100%
= (Php2,500 - Php3,000)/Php3,000 x 100% = -17%

% Corner Lot
= (UV Sale 28 - UV Sale 9)/UV Sale 28
= (Php3,333 - Php3,000)/Php3,000 x 100% = +11%

% Adjustment elevated land
= (Php3,625 - Php3,000)/Php3,000 x 100% = +20%

% Blighted lot (illegal settlers) with corner influence
= (Php3,000 x 111%) = Php3,333 (with Corner Influence)
= (Php2,750 - Php3,333)/Php3,333 x 100% = -17.5%

% Effect to Main Road
= (UV Sale 30 - UV Sale 9)/UV Sale 30
= (Php3,500 - Php3000)/Php3,000 x 100% = +16%

From the previous transactions in this particular area, it can be analyzed that:
- Base unit value = Php3,000/m² (Sales 9,11,23.)
- Sloping down = deduct 16% (Sale 22)
- Corner lots = add 11% (Sale 28)
- With a view = add 20% (Sale 21)
- Blighted status (squatters) = deduct 17% (Sale 12)
- Lots along main road = 16% higher (Sale 30)

a. *Criteria for Sub-Classification for Residential Lands.* From the given example, the following are the criteria resulting from the condition of the land. There will be more criteria to be considered depending on the diversity of data in a given sub-market area.

R1	R2	R3
Along main road Along interior road with view Relatively flat	Along interior roads No View Relatively flat	...

b. *Adjustment Factors for Residential Lands.* The adjustment factors, as shown in the sample, depended on the physical characteristics which is peculiar to a specific sub-market area and may not apply to other sub-market areas.

Corner influence = +11%
Sunken lots less than 1.5m = 0% (no adjustment)
Sunken lots at 1.5m or more = -16%
Blighted status (presence of illegal settlers) = -17%

To be more comprehensive about the set of criteria for each sub class, consider the following example:

I. FIRST CLASS RESIDENTIAL LANDS
1. Located along concrete road
2. Area where top grade apartment or residential buildings are predominantly situated
3. Public utility, transportation facilities are exceptionally regular toward major trading centers
4. Located next to commercially classified lands
5. Water, electric and telephone facilities are available
6. Commands the highest residential land value in the city
7. Free from squatters

CASE 2: Development of SMV Using Adjustments for Time

It should be possible to analyze the change in value (often an increase, but sometimes a decrease) over the period from which sales are collected. This change can be applied to values of all properties used as evidence to bring them all to the date of valuation for the general revision. The index or table can be applied to property sales to provide a uniform basis for adjusting the different property characteristics.

A table of standard lots (rectangular shape, flat land with no adverse effects, etc.) in a general area (not in a subdivision) may, after analysis, show the information on the table below. The information allows for time adjustments to be incorporated when considering sales that occur during periods of value change. By recognizing changes and establishing a reliable Time Adjustment Table, an assessor or an appraiser can use sales occurring prior to the date of valuation, and following the date of valuation in the assessment of value. Sales can be adjusted to reflect the price they would have achieved if they were sold at the date of valuation.

Table 19. Sample Time Adjustment Table

Land Sales Record – Purok 1, Barangay Poblacion			
Date of Sale	Analyzed Value Php/m²	Total % Increase	Quarterly % Increase
Apr-04	2,200	Base of 100.0	
Jul-04	2,250	102.2	2.2
Oct-04	2,275	103.3	1.1
Jan-05	2,300	104.4	1.1
Apr-05	2,325	105.5	1.1
Jul-05	2,650	117.7	12.3
Oct-05	2,650	117.7	0.0
Jan-06	2,750	121.4	3.6
Apr-06	2,700	119.5	-1.9
Jul-06	2,800	123.1	3.6
Oct-06	2,900	126.6	3.4
Jan-07	2,925	127.4	0.9
Apr-07	3,000	129.9	2.5

The reference date of the general revision provides a predetermined point in time when the valuation level is set and when all time adjustments can be aimed. All the sales, cost and rentals used in the analysis should be adjusted to reflect the circumstances of the valuation date and reflect either inflationary or recessionary trends in the market. For sales data, time adjustments can be made by using either resale properties or a comparable sales analysis of similar properties.

For example, if there is a relevant sale two years prior to our valuation date, and analysis of other transactions indicates that values have risen by 10% over this two-year period, then the relevant two-year-old sale property can be used as evidence of current value by adjusting the sale price up by 10%. This should strongly indicate the value of the subject property. Every time any transaction is adjusted, the chance for committing errors increases. Thus, the best sales data to use are those that require the least adjustment i.e., an arm's-length sale of an almost identical property at the date.

Time adjustment studies (indexing) should be conducted as close to the valuation date as possible. These adjustments are expressed as a percent for an appropriate period and reflected as either an increase or a decrease. If re-sales are not available, the trends can be determined by analyzing the data further. Sales occurring after the reference date can be considered in the final analysis conducted at the end of the appraisal program. Any change in value levels, as reflected by those later sales, can be recognized by adjusting the completed appraisal's back to this valuation date.

The date of valuation sets the circumstances for the whole assessment. If any information (i.e., sudden rise in building costs, drop in values due to a change in the value of the peso, change in government policy that affects values) comes to light later which was not yet available to the typical seller or buyer at the date, then this information must be used carefully. A typical buyer at that time of valuation reference date would not have had this new information and would not have taken it into account when purchasing. Therefore, an appraiser, when looking back to this period, would have to ignore this new or more recent event, and all the influences of that event.

Table 19 shows that during the period under review, land values increased by 29.9% within the span of three years. If this can be considered a reliable pattern, then the information can be used to value other lots in the area although there may be very few sales of that other type of lot. The July '05 quarter should be considered carefully given that there was a 12.3% jump in land value, which may be due to a buyer paying extra for this parcel (uninformed buyer, perhaps), and also with the April '06 quarter when a drop is recorded. Individual periods may vary from time to time and exceptional increases or decreases may show up. However, if the market is examined over a period of a few years, then the inconsistencies often balance each other out. It should be stressed that it is the trend being sought in this regard.

EXAMPLE:

General Revision Reference Date: May 2007
By using the table of standard lots derived in the previous sample computation and discussion, determine the expected unit values of lots in similarly situated sub-market area as of May 2007:

Sub-Market Area	Date of Sale	Unit Value (Php)
1	May 05	2,450
2	July 05	3,000
3	Feb 06	4,000
4	Oct 04	2,750

From Table 19, note that the base value to be considered for May 2007 is the closest current date of April 2007 with lots valued at Php3,000/m². To determine the percentage increment from a given date to the current date, deduct the percentage increment for a given date from the increment for the current date (129.9%). The base value for any given date of sale is the % increment closest to the date of sale. That is, the closest date to May 2007 in Sub-Market 1 is April 2007. In the same manner, January 2006 is used for February 2006 date of sale (See Table 19). A sample computation of % increment from Base Value to date of sale is presented in Table 20.

Table 20. Sample Percentage Increment from Base Value vis-a-vis Available Date of Sale within Similarly Situated Sub-Market Areas

Date of Sale	% Increment from Available Date of Sale to May, 2007			
	Area 1	Area 2	Area 3	Area 4
May 05	129.9 - 105.5 = **24.4**	n/a	n/a	n/a
July 05	n/a	129.9 - 117.7 = **12.2**	n/a	n/a
Feb 06	n/a	n/a	129.9 - 121.4 = **8.5**	n/a
Oct 04	n/a	n/a	n/a	129.9 - 103.3 = **26.6**

To complete the expected unit value for a given sub-market area, multiply the unit value at the date of sale by ((100 + % increment from base value)/100), where the % increment is the % derived in Table 20. Table 21 illustrates how the expected unit values in the for sub-market areas were determined.

Table 21. Expected Unit Value (Php) at Current Date

Date of Sale	Sub-Market Areas			
	1	2	3	4
May 05	2,450 x 1.244 = 3,047 or 3,000	n/a	n/a	n/a
July 05	n/a	3,000 x 1.122 = 3,366 or 3,300	n/a	n/a
Feb 06	n/a	n/a	4,000 x 1.085 = 4,340 or 4,300	n/a
Oct 04	n/a	n/a	n/a	2,750 x 1.266 = 3,481 or 3,400

As of May 2007, the subject lots were valued as follows:

Sub-Market Area	Date of Sale	Unit Value at Date of Sale (Php)	Expected Unit Value at May 2007 (Php)
1	May 05	2,450	3,000
2	July 05	3,000	3,300
3	Feb 06	4,000	4,300
4	Oct 04	2,750	3,400

By analyzing several data in different sub-market areas and grouping them by criteria and value ranges, the schedule of market values will be developed. Again, the criteria are determined by the conditions of the land whereas the adjustment factors are determined by the physical characteristics of the land.

Adjustments for time and physical differences will often need to be made to sale transactions (the market evidence) to align them with the various sub-market groups at the relevant date of the general revision (i.e., Date of Valuation or 'Reference Date'). Keep in mind that every adjustment is a potential error, thus, the assessor or appraiser must still bring all sales to the relevant date and also determine the various factors that make up any sub-market group. There will be properties that do not fit sub-market categories, and these have to be appraised on an individual basis.

CASE 3: Developing the SMV Using Income Capitalization Approach

Capitalization of Ground Rent. It is possible to determine the value of land by capitalizing the rent that is, or would be, paid for the land. Rent for vacant land is termed 'Ground Rent'. The process is quite straightforward, particularly given that there is generally no complication with operating expenses.

However, the long-term or short-term rents must be considered carefully for they do not often reflect the value of the land. Short-term rents are often rents of convenience, are for purposes of short-term storage, and are sometimes from owners who do not require the land in the immediate future.

However, there are some serious users of leased sites, and the rents that are paid are at proper market levels. In such cases, it is reasonable to capitalize the rent to determine the market value. The difficulty with capitalizing ground rent is in the determination of the capitalization rate. To determine a reliable rate, the appraiser needs to locate a comparable site that has been sold or can be reliably valued by direct comparison, and is also leased. Thus, the relationship between the rent and the market value of the site can be relied upon, and thereby determine a capitalization rate.

Ground rents often show a lower capitalization rate than developed properties due to the durable nature of the land alone, compared with the depreciating nature of a developed property. In the case of ground rent, the landlord is seeking the normal return on capital. However, there is little need to built-in a risk element with regard to depreciation of the building, or loss or damage, as the land itself is virtually indestructible. No matter what happens, the landlord will retain the value of the land. It is very rare for land alone to diminish in value (beyond the normal market fluctuations) due to being indestructible. However in some cases, heavy pollution will have a detrimental effect and can substantially reduce the value of land. There are cases around the world where industrial pollution has damaged a site so badly and the associated liability and huge sums required to overcome the problem are sufficiently large that the net effect had resulted in land having a negative value.

The actual mathematics associated with ground rent capitalization is no different to that of any other property type and is simply a combination of any two of the following: (1) rent, (2) market value and (3) rate of return.

Determining the rent or capitalization rate to be used is based on comparable properties, which can be collected from the market and should not be directly attributed to other capitalization rates or interest rates due to the risk and durable nature of the land.

EXAMPLE

Table 22. List of Ground Rent

Lot	Dimensions (m)	Land Area (m²)	Net Rent (Php)	Description
1	10 x 20	200	42,000	Flat land, inside lot, no view or other factor
2	8.5 x 20	170	35,000	Flat land, inside lot, no view or other factor
3	8 x 20	160	26,000	Inside lot, land drops from road by 1.5m (i.e., slopes down)
4	7.5 x 20	150	31,000	Almost flat land, slight fall from road (slope down)
5	10 x 20	200	46,000	Flat lot, no view, located on good corner.

Formula: $V = I / CR$
Where: V = Market Value
  I = Net Income/ Rent
 CR = Capitalization Rate

Capitalization Rate = Income / Value x 100

The capitalization rate can be estimated from known valid sales and rentals within the same sub-market area.

Table 23. Deriving the Capitalization Rate

Sale	Area (m²)	Market Value (Php)	Net Annual Rent (Php)	Capitalization Rate (%)
A	150	2,000,000	240,000	12.00
B	180	2,000,000	180,000	9.00
C	100	1,100,000	120,000	10.91
D	200	3,800,000	360,000	9.47
Average Capitalization Rate				**10.35 or 10**

In applying the capitalization rate, the following unit values are derived:

Table 24. Determining the Unit Values

Lot	Land Area (m²)	Net Rent/ mo. (Php)	CR (%)	MV (Php)	UV with Influence (Php)	Influences	Adjustment to UV based on Influence (%)	Unit Value without Influence (Php)	Unit Value (Php)
1	200	42,000	10	5,040,000	25,200	Flat land, inside lot, no view or other factor	0	25,200	25,000
2	170	35,000	10	4,200,000	24,705	Flat land, inside lot, no view or other factor	0	24,705	25,000
3	160	26,000	10	3,120,000	19,500	Inside lot, land drops from road to 1.5 meters	-20	15,600	16,000
4	150	31,000	10	3,720,000	24,800	Almost flat land, slightly slopes down from road	0	24,800	25,000
5	200	46,000	10	5,520,000	27,600	Flat lot, no view, located on good corner	+12	30,912	31,000

Formula:

Market Value = Annual Rent / Capitalization Rate

or

= (Net Monthly Rent x 12) / Capitalization Rate

Unit Value with Influence = Market Value / Land Area

Unit Value without Influence =

Unit Value with Influence x (100% + Adjustment to Unit Value)/100

a. *Schedule of Market Values for Commercial Lands:*

Sub Classification	Unit Value (Php)
C1	25,000
C2	20,000
C3	15,000
C4	12,500
C5	10,000
C6	7,500
C7	5,000

b. *Sample Criteria for Sub-Classification of Commercial Lands:*

I. FIRST CLASS COMMERCIAL LANDS
   i) Located along concrete road
   ii) Areas where the highest trading activities of the city takes place
   iii) Areas where high grade commercial or business buildings are situated
   iv) Areas where vehicular and pedestrian traffic flow are exceptionally busy
   v) Apparently commands the highest commercial land value in the city.

II. SECOND CLASS COMMERCIAL LANDS
   i) Located along concrete road
   ii) Areas where the highest trading, social or educational activities
      are considerably high
   iii) Areas where all concrete commercial or business buildings are
      situated
   iv) Areas where vehicular and pedestrian traffic flow are
      considerably busy, but fall short than that of the First Class
      Commercial Lands
   v) Commands lesser value that of the First Class Commercial
      Lands.

Other adjustment factors can be established in the same manner.

c. *Adjustment Factors for Residential Lands:*
      Corner Influence = +12%
      Land drops 1.5m or more from the road = -20%

CASE 4: Development of SMV Using Land Residual Technique

Given:

Parcel 1
Land Area = 200m²
Total Building Area (2-Storey) = 180m²
Building Age = New
Selling Price = Php1.85 Million
With Block fences = 60lm
Pavement = 83m²

Parcel 2
Land Area = 180m² (9m x 20m)
Unit Value = Php3,000/m²
Building Age = 5 years old
Depreciation Rate = 5.5%
Total Building Area (2-Storey) = 140m²
Selling Price = Php1.45 Million
With Block fences = Php1,200/lm

Conditions:
> Lands are similarly situated.
> Buildings are similarly constructed.
> Paving = Php800/m²

Determine the land unit value of Parcel 1.

Solution: 1. Determine first the land value and building value of Parcel 2.

Land Value   = 180m² x Php3,000/m² = Php540,000
Block Fences = Perimeter x Php1,200/lm = 58lm x Php1,200/lm
                = Php69,600
Depreciated Building Value = Php1,450,000 – Php540,000 - Php69,600
                = Php840,400
Building Value New = Php840,400/(1.00 - 0.055) = Php888,312
Building Unit Value = Php888,312/140m² = Php6,352/m² = Php6,500/m²

2. Apply the unit value of building to Parcel 1:

Value of Building   = 180m² x Php6,500/m²
                          = Php1,170,000
Value of Fence   = 60 lm x Php1,200/lm = 72,000
Value of Pavement   = 83m² x Php800/m² = Php66,400
Value of Land (Parcel 1) = 1,850,000 – 1,170,000 – 72,000 – 66,400
                          = Php541,600
Unit Value of Land   = Php541,600/200m² = Php2,708/m²
                          = Php3,000/m²

By using the same residual technique in extracting the value of other lands, a Schedule of Market Value can be developed. Again, the criteria is determined by the conditions of the land whereas the adjustment factors are determined by the physical characteristics of the land.

i. Triangular and Irregularly Shaped Lots. Triangular and extremely irregularly shaped lots can be difficult to assess. However, their value should be based on their highest and best use and should consider local circumstances. For instance, there is a perception that triangular lots have lower value per square metre than regular lots. This may be the case in some circumstances. However, an equilateral triangular shaped lot within a retail area and with base along the road, may have a high value given that it provides a much greater public exposure compared to a rectangular lot of the same square meter area. For example, a square lot of 500sqm would have a frontage of 22.4m. It is likely that a typical rectangular lot would have a frontage of about 16 meters and a depth of about 31m.

> The Assessor's Manual provides an example that in the case of a residential area where 20 meters is the standard depth, any lot with a depth greater than 20 meters will show a reduction in value by 20% for the next 20 meters and then another reduction of 20% from the standard value for the next 20 meters (i.e., the 40 - 60 meter deep portion) and so forth.
>
> The same can be said for guidelines for irregularly shaped lots. If there is a pattern in a particular sub-market area, then use it, but if not, an assessor/appraiser must be careful in applying models or 'rules' that could be arbitrary. Nevertheless, properties still have to be valued and assessed and at some stage a decision has to be made as to the method of valuation.

An equilateral triangular lot of 500sqm would, on the other hand, have a frontage of 34m (just more than double that of a regular rectangular lot). A retailer would possibly pay as much, or more, for the 34 meter frontage site to provide the property a relatively large display and promotional image to the public.

The reduction in value due to shape will also be influenced by the size of the parcel. A small awkwardly shaped parcel may suffer a large drop in value per square meter due to its limited use (unless perhaps to an adjoining owner). However, a large irregularly shaped lot may suffer little, as any large parcel is capable of incorporating a use or design of building that can minimize the disadvantage. It is likely that large irregularly shaped lots can be subdivided or developed in a regular manner, and only a small portion of the lot will suffer value loss. A lot having an unusual shape does not mean that all the land within the parcel is adversely affected.

However, <u>only in the absence of any evidence to the contrary, and not in the case of retail</u>, where irregular lots are similar in size to the typical lot for the locality, should the following guide apply:

- Triangular lot with its base on the street: Adopt a value per square meter of two-thirds the SMV for similarly sized rectangular lot in the location.

• Triangular lot with its apex on the street: Adopt a value per square meter of one-third of the SMV for a similarly sized rectangular shaped lot in the location.

• Trapezoidal lot: To find the value of a trapezoidal lot, compute the values of the rectangular and triangular portions separately and according to the guide for that shape, then take the sum of the computed values to get the total value.

• Irregularly shaped lot - Reduce the irregular lot to the nearest equivalent rectangular, triangular and trapezoidal sectors, then apply the foregoing guide in computing the lot values.

Check the result to determine whether the calculated value is reasonable (i.e., whether a willing buyer/willing seller would transact at this value). In the retail example above, the results would likely show an inappropriate value (too low); thus, the value based on the guidelines would have to be discarded and an individual value adopted.

ii. Stripping Method. With large lots, the 'stripping method' is commonly used as a component of direct comparison. In stripping method, measure the land at various distances from the front of the site. Then, allocate a different value for each measurement as a percentage of the value of land at the front. There are mixed views, however, as to whether this method reflects market dynamics, which suggests that the stripping method is not appropriate. However, if a pattern exists, and can be tested to show that it applies to many transactions, then this should be considered as a valid method for adjusting the valuation.

Note that the Assessor's Manual (page 111) states that *"The Stripping Method shall not be applied on commercial and industrial properties,"* although in practice it does seem to be adopted as a fall-back method in various LGUs. Because of this limitation, the appropriate adjustment to values for commercial and industrial properties may find its way in other criteria or adjustment factors.

Generally, buyers are interested in the whole site. In their minds, each square meter contributes to the value of the whole. In many cases, the front portion or the portion nearer the road is considered to have the highest value. However, the stage or distance, if any, from the front for which the value changes (drops to a lesser amount) remains arguable.

Stripping Method Analysis Example:

Basic Assumptions:

Standard Depth for the area = 35m
Base Price for a 35m deep lot is Php15,000.00/m² (established by Sale 2 and 3);
All lots were sold recently
Frontage = 15m (except for Lot 7 & Lot 8).

Analyze each sale and determine whether there is a pattern evolving from these transactions.

Table 25. Analysis for Stripping Method

SALE 1	SALE 2
Given: Frontage x Depth = 15 x 25m = 375m² Lot Price = Php6,000,000	*Given:* Frontage x Depth = 15 x 35m = 525m² Lot Price = Php7,875,000
Unit Value = Php6,000,000/375m² = Php16,000/m²	**Unit Value** = Php7,875,000/525m² = Php15,000/m²
• If base value is Php15,000/m², then this sale shows a 7% increase above base price per m² (16,000/15,000 = 1.07). • Lot is smaller than typical and reflects slightly higher than typical Unit Value	**Analysis by Stripping:** The typical depth for this locality is 35m. Stripping is no longer needed for this lot.
SALE 3	**SALE 4**
Given: Frontage x Depth = 15m x 35m = 525m² Lot Price = Php7,875,000	*Given:* Land Area: 15m x 42m = 630m² Lot Price = Php9,135,000
Unit Value = Php7,875,000/525m² = Php15,000/m²	**Unit Value** = Php9,135,000/630m² = Php14,500/m²
Analysis by Stripping: The typical depth for this locality is 35m. Stripping is no longer needed for this lot.	**Analysis by Stripping:** Base lot size 525m² x Php15,000/m² = Php7,875,000 Sale of Php9,135,000 - Php7,875,000 = Php1,260,000 Therefore, rear strip has a value of Php1,260,000 Php1,260,000.00/(7m x 15m) = Php12,000/m² Unit Value for the rear strip = Php12,000/m² Shows 20% lesser in value than front strip (12,000/15,000 = 0.8)

(Cont...) **Table 25. Analysis for Stripping Method**

SALE 5	SALE 6* (Irregular shape and corner lot)
Given: Frontage x depth = 15m X 50m = 750m^2 Lot Price = Php10,350,000 **Unit Value** = Php10,350,000/750m^2 = Php13,800/m^2 **Analysis by Stripping:** Base lot of 525m^2 x Php15,000/m^2 = Php7,875,000 Sale of 10,350,000 - 7,875,000 = Php2,475,000 Rear strip has a value of Php2,475,000 2,475,000.00/(15m x 15m) = Php11,000/m^2 Unit value for the rear strip = Php11,000/m^2 Shows reduction of 26% in value than front strip. (11,000/15,000 = 0.733), thus, a drop in value by 26.7%	*Given:* Land Area: (15m x 30m) + (30.1m x 2.0m tapering) 450m^2 + (60m^2/2) = 480m^2 Lot Price = Php8,280,000 **Unit Value** = Php8,280,000/480m^2 = Php17,250/m^2 **Analysis of Corner Lots:** 480m^2 x Php15,000.00 = Php7,200,000 (Php8,280,000/Php7,200,000 = 1.15) Corner lot shows additional 15% value from a basic lot Note: Lot 6 does not have the exact same size as the typical lot along the road and is slightly smaller and marginally irregular. In a well ordered market, a portion of the higher value per square meter may be attributable to the size difference and unlikely for the amount to be reduced due to the slightly irregular shape. Further evidence should be gathered before adopting 15% as the corner factor.
SALE 7	SALE 8*
Given: Slightly irregular corner lot Frontage = 30.1m x Depth (North boundary 17.0m, South boundary 20.0m) Rear (West) 30.0m depth Lot Price = Php7,770,000 Land Area: (18m x 15m) + (15m x 1.5m) 270m^2 + 22.5m^2 = 292.5m^2 Unit Value: Php4,095,000/292.5m^2 = Php14,000/m^2 This lot will not be considered for stripping since it has a different frontage and side street.	Given: Slightly irregular corner lot Land Area: Frontage North 19m x 30m deep (East boundary) Frontage to side road 30.1m (West), 17m (South) Lot Price = Php9,072,000 Land area = (17m x 30m) + (30m x 2m tapering) = 510m^2 + (60m^2/2) = 540m^2 Unit Value = Php9,072,000/540m^2 = Php16,800/m^2 **Analysis of Corner Lot:** 540m^2 x Php15,000 = Php8,100,000 Php9,072,000 − Php8,100,000 = Php972,000 Additional value of a corner lot: Php972,000 (Php972,000/540m^2 = 1,800 additional unit value) (Php1,800/Php15,000 = 0.12) An additional 12% value from a basic lot

*As these sales are for irregularly shaped corner lot, it is impractical to use the stripping method without substantial evidence of the strip value of corner lots even if this lot is only about 10% larger than the standard. Note that the difference in amount per square meter would mostly be due to corner influence.

From the previous information, the following can be determined:
- Unit value in the area is Php15,000/m^2
- Lots exceeding the 35m standard depth shows a lower unit value as affected by depth
- Corner lots are not affected by stripping.

Standard depth varies for different market areas. To establish the standard depth, analyze data from a set of homogeneous properties which are grouped according to frontage and depth and which are compared through their sales values. If property values fall as the depth gets longer, then this proves that the unit value is affected by depth.

iii. Physical Factors as a Basis for Formulating Adjustment Factors. Since no two parcels of land are identical, adjustments may be needed to allow for physical differences when valuing other properties. Typical adjustments to land are size, view, location, shape, elevation, topography, and access. The most supportable adjustment (e.g., size) should be dealt with first, followed by the next most supportable, etc. The common differences make up the adjustment factors.

Adjustments can be developed through careful market analysis. One common method is by use of matched pairs. Matched pair analysis requires that sales are similar in all but one characteristic. For example, two very similar lots in the same market area are for sale with one lot having a view whereas the other does not. The difference in value between these two sales would likely be considered as one market indication for view. Since one sale does not make a market, it requires a succession of these matched pairs to validate a view adjustment.

Look for matched pairs once most (if not all) variables have been identified. This is not usually a daunting exercise and answers to at least some variables may be available in the immediate locality. After developing as many adjustments as possible, form a Table of Adjustments. If variations exist yet no evidence can be found, an appraiser must make a professional judgement to value the effect of a variation.

In mass appraisal circumstances, only account for those factors that have a major effect on value. Ignore minor variations given this context.

iv. Property Conditions as a Basis for Developing Criteria for the Classification and Sub-Classification of Lands. Given all conditions are equal, develop the criteria for the classification and sub-classification of lands based on the limitations of its use and the value of sales in a particular area. The physical effects of the properties may also form part of the criteria (such as elevated and low lying area) as long as this is true to a number of properties and not only peculiar to a few.

v. Establishing Land Value Maps. Land Value Maps are visible and effective tools for displaying the values deduced from actual land and improved sales. The land value maps can be any form of LGU base map. However, it should be detailed enough to recognize locations, and if possible, should show actual streets/roads. Pertinent information on the Land Value Maps enable the appraisers to have an index of benchmarks and market data. This way, appraisers will have a ready, visual display for the market data on each Land Value Map.

Working Land Value Maps (Figure 6). Working Land Value Maps show the ranges of values within a sub-market area detailed along its streets or particular locations. The information placed on the maps include the benchmarks, all sales, recent asking prices, offers, zoning, road information, statistical building class, depreciation (percent good), and any other necessary appraisal data. For convenience, the factors affecting value are transformed into color codes and are reflected in the map. These data help establish equity and uniformity and serve as an effective review tool. This color coding will be the benchmark for crafting the final market value.

Final Land Value Maps (Figure 7). Land Value Maps are practical reference to values of properties because of the geographic distribution of the values. Once the values within sub-market areas are finalized, these could now be plotted along the streets or peculiar locations on the map. Land Value Maps work efficiently in urban areas where there are networks of roads and streets. They are also useful for agricultural lands as the different values of agricultural activities by location can be detailed. This will be discussed in the later part of this Chapter.
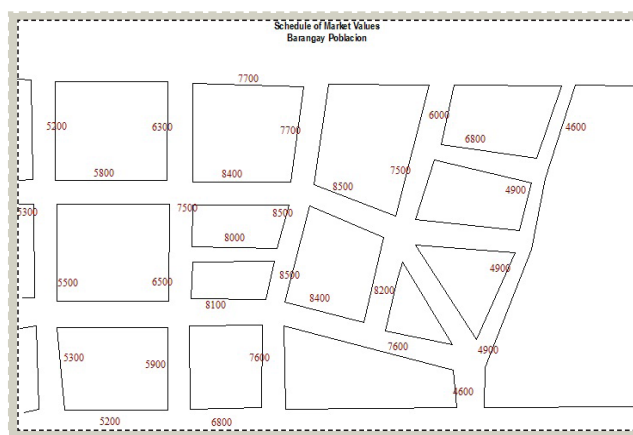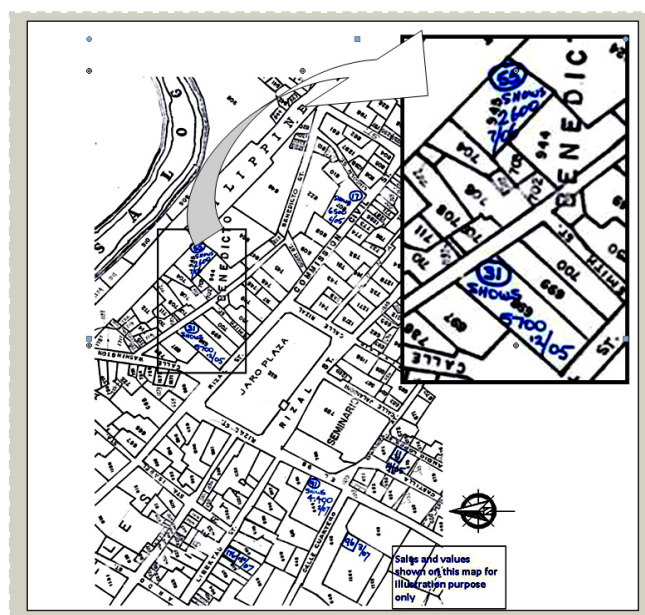
(LEFT) Figure 6. Sample Working Land Value Map for Sub-Market Areas (Jaro, Iloilo)

(TOP) Figure 7: Sample Final Value Map (Barangay Poblacion)

vi. Sales Analysis for Land Value When There are No Vacant Land Sales. What happens when there are few land sales? Whether there are vacant land sales or not, the property still has a value. If there are ample vacant commercial lots in a locality but sales are few, then an appraiser must consider the reason why there are no sales.

The lack of sales transactions could be due to:
- No interest from buyers or demand for properties currently met
- Overpricing
- Land being held for speculation
- Lack of demand for building sites
- Poor economic circumstances, and
- Political or governmental restrictions or negative perceptions.

Whatever the issue, a value still has to be adopted for LGU transaction purposes.

d. Developing SMV for Commercial and Industrial Lands

The Local Government Code defines these property types:

• **Commercial Land** – land devoted principally for the object of profit and is not classified as agricultural, industrial, mineral, timber, or residential land.

• **Industrial Land** – land devoted principally to industrial activity as capital investment and is not classified as agricultural, commercial, timber, mineral or residential land.

Commercial and industrial properties are valued in the same manner as any other property. The key is to consider the intended use of the property to a typical buyer from a typical seller. *Would the buyer buy based on a simple direct comparison with other properties for sale? Would a buyer be more interested in the cash flow the property can generate? Would a buyer consider how much it might cost to build a new property of this particular type? Would a buyer consider whether they could buy, develop and sell off part of the property?*

i. Considerations in Valuing Commercial and Industrial Lands. Appraising commercial or industrial land is a little bit different in its process compared to any other land, as it focuses more on the utility of the property/site. The following should be considered in in valuing commercial land: (1) Location, (2) Optimal size, (3) Flow and Volume of Traffic, (4) Corner Influence, (5)Public facilities and amenities

The following should be considered in valuing industrial land: (1) Zoning, (2) Large Area, and (3) Availability of private and public utilities.

ii. Specific Valuation Approaches for Commercial and Industrial Lands. As with any other types of property, the correct valuation approach should be the approach that typical sellers and buyers in the property market would use. Commercial and industrial properties can be more complex than residential or agricultural properties, mostly due to the nature of improvements.

Although the process of valuing commercial and industrial lands is the same as that of residential lands, the difference is on the former's greater emphasis on permitted use and geographic factors. Permitted use of commercial and industrial lands can have a considerable influence on the allowable developments, thus, on the extent to which the site can be developed.

Most property owners and investors want to maximize their returns on a property. The ability to exploit the various attributes of a parcel will greatly influence a buyer.

iii. Direct Comparison *(Market Data)* **Approach.** When valuing land itself, the most appropriate method is the direct comparison. The unit value is established from sales, which is then applied to the land area being valued.

Analyzing land value is not difficult in a regularly shaped lot. It can be as simple as dividing the selling price by the area of land involved. Assuming that an appraiser holds the true and correct selling price information, then a straightforward 'unit of value' for comparison and determination of value can be established by dividing the selling area by the land area.

Thus, a lot of 2,000m^2 that sells for Php2,400,000 would have a per square meter unit value of Php1,200 (Php2,400,000/2,000 = Php1,200). If this is a typical value for the area, then it can be used to determine the value of those properties in the area that are similar to the property being analyzed.

Dealing with sales over a period when prices are not stable can be confusing. However, adjustments can be made for time and price changes during a period under review.

Insofar as a discussion on valuation of commercial and industrial land using direct comparison is concerned, detailed discussion can be found under Residential Lands.

Commercial Land. Commercial lands should be differentiated from offices and the like. Generally, owners and occupants of commercial lands look for sites that are visible to the public and provide very good access. Part of the value of a good commercial site is directly attached to the amount of public exposure the site gets. Those businesses requiring high public exposure will pay extra for sites that have that exposure attribute; hence, the reason why many major commercial stores pay extra to get highly exposed sites. The exposure influence can be apparent in both buying and selling (market value) as well as rental levels within a shopping complex or shopping mall.

A highly exposed land parcel or allocated space will fetch a greater price due to its high potential income, being more accessible to people. For instance, high-value commercial lands are located on main roads and have a shape that allows maximum use of the site when a building is constructed

Industrial Land. Industrial lands are not as dependent on public profile and accessibility as commercial land is due to the lower likelihood that it would need direct public access or profile, unlike in a commercial type property.

Industrial sites mostly require land that is large in area, has good access for heavy vehicles, and is accessible by an appropriate work force. Good quality industrial land is often close to transportation facilities such as ports, railways and other land transportations or suppliers and can have low quality amenities and services, although they could require high volume of water or electricity supplies. In considering any form of industrial land, the assessors/appraiser must consider the likely uses and potential buyers. An ideal industrial site would have little value if there are few buyers in the property market. However, appraisal does assume that a buyer exists, and the value reflects the existence of the hypothetical buyer, as clearly set out in the market value definition.

Factors Influencing Values of Commercial and Industrial Lands Unaffected by Time. Different LGUs and different properties or land types/zoning may exhibit different factors. It is 'proper procedure' for the assessors/appraisers in an LGU to adopt their own findings. In some areas, corners may not add any extra value at all.

However, previous sample calculations (Case 2) show that time factor between transactions can be adjusted in order to arrive at base values at the time of valuation, or to determine other influences such as corner, slope, presence of detriments, etc.

The example below will show how other factors (unaffected by time) can be extracted from a good sales analysis of similar properties in a sub-market area within a particular LGU. Consider this batch of sales information:

Table 26. Sample List of Property Values Unaffected by Time
and Its Feature and Analyzed Effect

Prop-erty	Unit Value (Php)	Area (m²)	Market Value (Php)	Transaction Date	Feature and analyzed effect Unit Value (Php)				Comments
					Corner	View	Traffic	Other Feature	
1	6,700	200	1,340,000	Feb-08					Typical Lot
2	7,250	200	1,450,000	Mar-09		+550			High side of Road
3	7,350	210	1,543,500	Apr-09		+650			Good view
4	6,500	280	1,820,000	Apr-09					Typical Lot
5	7,900	200	1,580,000	May-09				+1200	Abuts 1st Class Subdivision
6	6,750	250	1,687,500	Jun-09					Typical Lot
7	5,750	200	1,150,000	Jun-09			-950		Near busy Intersection
8	7,500	200	1,500,000	Jun-09	+800				Adjoins Main Street
9	8,050	200	1,610,000	Aug-09	+750	+600			Good Corner and view
10	6,550	300	1,965,000	Aug-09					Typical Lot

The sales in Table 26 span an 18-month period which is apparently unaffected by time considering typical lots 1, 4, 6, and 10. The difference in the sales values are affected by other number of factors present in this group of properties.

Table 27. Adjustment Factors Unaffected by Time

Property	Base Land Area for locality using typical lot (m²)	Base Land Value at Base Date (Php/m²)	Base Date	Adjustments (Php)*				
				Corner	Views	Traffic	Size	Features
				775	600	-950	0	1,200
				% Adjustments (Average/Base Land Value x 100)				
1	200	6,700	Feb-08	12	9	-14	0	18
2	200	7,250	Mar-09	11	8	-13	0	17
3	210	7,350	Apr-09	11	8	-13	0	16
4	280	6,500	Apr-09	12	9	-15	0	18
5	200	7,900	May-09	10	8	-12	0	15
6	250	6,750	Jun-09	11	9	-14	0	18
7	200	5,750	Jun-09	13	10	-17	0	21
8	200	7,500	Jun-09	10	8	-13	0	16
9	200	8,050	Aug-09	10	7	-12	0	15
10	300	6,550	Aug-09	12	9	-15	0	18

Derive the average on feature and analyzed effect per item

If the sales are simply examined in isolation, then the assessor/appraiser can only determine the square unit value for each property. However, this does not provide reliable material that can be applied to other land parcels and be used as evidence of value with any confidence.

The above matrix of sales information reveals a host of information. The lots were all reasonably 'standard' and the size no loner needs to be adjusted. In the normal course of sales analysis, however, it is unlikely that such a small number of sales would provide the key information described previously.

e. Drafting a Schedule of Base Unit Market Values: Residential, Commercial and Industrial Lands

After undergoing the SMV formulation process, a draft Schedule of Base Unit Market Values for all types of land (i.e., Table 28) can be developed to represent the different locations and its corresponding values and sub-classifications. The table is only a sample of what can be included in the Draft SMV for Land. A more comprehensive sample can be found in Appendix 5: Sample SMV Ordinance.

**Table 28. Sample Draft Schedule of Base Unit Market Values
for Residential, Commercial and Industrial Lands**

Street / Subdivision	Vicinity	2003		2009	
		Base Value (Php)	Sub-Class	Base Value (Php)	Sub-Class
Barangay 1					
Street A	Road 1 - Road 2	3,500.00	R-4	5,000.00	R-3
		2,800.00	I-3	7,200.00	I-2
Street B	Street XX - Street YY	5,000.00	R-1	6,000.00	R-2
	Interior Lots			2,500.00	R-8
Avenue A	Street XY - Street YX	12,800.00	C-1	20,000.00	C-1
	Street ZX - Street ZZ	10,300.00	C-3	12,000.00	C-4
	Street YX - 1st 300m	8,500.00	C-5	15,000.00	C-3
	Street YZ to Port Area	4,000.00	I-1	8,000.00	I-1
	Others	4,800.00	R-2	6,000.00	R-2
Subdivision A				6,000.00	R-2
Subdivision B		5,500.00	R-2	7,000.00	R-1
All Blighted Areas					

Note: R = Residential Land, C = Commercial Land & I = Industrial Land

AGRICULTURAL LAND

The Local Government Code of 1991 provides "Agricultural Land" to be those lands devoted principally to the planting of trees, raising of crops, livestock and poultry, dairying, salt production, inland fishing, and similar aquaculture activities, and other agricultural activities[1].

In determining their value for RPT, the valuer must have a sound knowledge and understanding of: (1) the physical and economic elements that affect the productive capacity of agricultural lands; and (2) the costs of production and the value of the commodities produced.

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[1] The Philippine Valuation Standards (PVS) provides a good discussion on the background of agricultural property valuations and standards material which is woven in this chapter.

The physical and economic characteristics of agricultural lands differ from those of non-agricultural or urban environment according to degree of importance. Soils in urban environment must be suitable for bearing the improvements that stand upon them. In agricultural properties, the soil is the principal agent in production varying in its capacity to support a given amount of a particular commodity or class of commodities.

In urban environments, the economic use of the property and/or the amenities it provides may be guaranteed by contractual arrangement. For some agricultural properties, the use of property may extend over a long duration (e.g., forest harvested after 25 years or perhaps larger) yet for others, the economic benefits can vary from year to year, depending on the commodities the property is capable of producing.

The income stream associated with agricultural property will depend on the types of agriculture for which it is used, the commodities produced, and the cyclical nature of the commodity market. This can be substantially influenced by annual weather cycles, something the owner or user has no control whatsoever.

For RPT purposes, the task in valuation is to consider production on the basis of a typical season and management. Typical management operates when a producer has high management skills or more capital to invest in fertilizer, and can consequently work the land to its greatest benefit (thus, have greater volume of produce than the typical farmer; and should not pay a higher level of RPT than the farmer who lacks those skills and has a lesser production rate). In cases of intercropping (where a secondary or more crops are grown with a primary crop), the land classification will be determined by the primary crop. The additional value as a result of the income from the intercropped product can be taken into account if the intercrop product is part of normal farm production, and not an activity undertaken irregularly.

The agricultural uses of properties may be classified in several broad groups including:

- **Crop(ping) Farm - a**gricultural property used for growing commodities that are typically planted and harvested within a 12-month cycle. Properties used for annual crop production may grow more than one type of annual crop over the same period and may or may not make use of irrigation to produce the crops.

- **Dairy Farm -** agricultural property used for the production of milk from cows or for other dairy products. These properties usually have extensive structural improvements (barns, milking parlors, silos) and equipment (feed bins, milking machines).

- **Forest/Timberland -** agricultural property used for growing non-orchard trees that are periodically harvested over extended growing periods (10 to 20 years or more).

- **Irrigated Land -** lands used to produce crops of forage for livestock which require the application of water other than that from natural rainfall.

- **Livestock/Ranches/Stations -** agricultural property used to raise and feed animals such as cattle, sheep, pigs, goats, horses, or combination thereof.

- **Perennial Planting -** crops grown from plantings that have extended life beyond one year or one-crop cycle. Examples are vineyards and orchards.

The assessor/appraiser must understand the unique nature of agricultural productive factors, commodity markets, production practices, and cycles in the market region. In valuing agricultural properties, the physical and environmental aspects of the property assume special importance. These include:

- Climate;
- Soil types and their productive capability;
- Topography (as land that is mostly level land and easy to work on);
- Availability or absence of water for irrigation;
- Feeding/carrying capacity for livestock;
- Availability and adequacy of support facilities required for storage, processing, and transportation; and
- Location in relation to the 'produce buyer';

In keeping with the "Market Value", a Highest and Best Use (HABU) analysis of the property should always be conducted in order to (1) warrant that an agricultural use is to be Continued, especially when it appears that another land use (e.g., subdivision development occasioned by encroaching urban/suburban expansion), might be more appropriate, and (2) determine whether the specific agricultural use is to be Continued. As with other property types, the principle of Highest and Best Use is a key to the valuation of agricultural properties..

The estimate of stabilized income of agricultural property must be based on the crop pattern and cycles in the market area.

a. Approaches to Value

To estimate value for agricultural property, the three standard approaches are available: (1) Comparative Sales (Direct Comparison/Market Data), (2) Income Capitalization (Productivity), and (3) Replacement or Reproduction Cost.

In the case of agricultural properties, the Direct Comparison (market data) approach uses a value estimate predicated upon the prices paid in actual market transactions - it uses recent sales of

similar property, with the usual adjustments to compensate for differences in time of sale, location, topography, size, distance to market, water supply, etc., to establish the value of the property.

The Income Capitalization approach, in the case of agricultural land, is referred to as the 'productivity method'. The same principles in Capitalization method are applied, only refined to the extent that the analyzed and capitalized incomes are not the rental streams, but the profit from production of agricultural products that are grown on the land. This requires analyzing the income produced by a property in order to estimate the sum which might be invested in the purchase of the property (in effect, consideration of the net income). In an individual valuation, a detailed financial study must be made on the property. Gross annual income from the production is either determined from actual figures or is estimated. Annual expense figures are best obtained from the property owner. The income, operating expenses and fixed charges of the subject property are analyzed and adjusted. The expenses are then subtracted from the gross income. Expenses in the case of agricultural land also includes a provision for the labor of the property owner/farmer.

The resulting net income is capitalized at a rate which the investor in the property can expect as a reasonable return. The capitalized value of the net income represents the present value of the property.

Depreciated Reproduction Cost Approach is applied mostly to improvements in a manner similar to other property types.

For real property tax purposes using mass appraisal techniques, the sale properties being used as evidence of value are analyzed in detail (the same as with any other property type) and the analyzed information applied to other similar properties in the area.

b. Valuation of Agricultural Properties and Other Land

The unit base value per hectare prescribed in the Schedule of Market Values (SMV) is multiplied by the area of the agricultural land to arrive at the market value for the different kinds and sub-classes of agricultural lands. The Local Government Code has no specific provisions on the valuation of plants and trees. Apparently, the kind of plants and trees determine the classification and value of agricultural land (SCRA,35 Phil 118).

In determining the value of agricultural land, ensure that the value of trees or crops is not included. Real property tax is based on the value of land. It is separate from the improvements on the land. However, crops and trees are for the most part not taxable, as they are the items of production arising from/on the land, almost in the same way that shirts are the output of a clothing factory, whereas rice or coconuts are the outputs of an agricultural activity. Agricultural land has a value due to its fertility and its role as a catalyst for agricultural production. The value of the land is that

amount which a person would pay in order to be able to plant trees or grow crops or graze cattle. A producer, in determining how much to pay for productive land, should consider:

- The productive capacity of the land;
- The annual or regular income likely to be received;
- The annual costs of production in achieving that income; and
- The amount for their own salaries and the annual profit margin (and possibly an additional amount as a return on their investment if there is a major capital tied up with infrastructure that contributes to the productivity).

The 'present value' of the expected net cash-flows from agricultural production is the value of the land and improvements. The land value element can be identified by subtracting the value added by the improvements from the total value to arrive at land value alone. It is important to subtract the value of trees or crops when dealing with agricultural land. Thus, the most reliable method of determining land value is from sales of vacant land in the locality. Unfortunately, there are usually very few vacant land sales suitable for production in any particular area. It may be necessary to search extensively to obtain sufficient suitable sales to base the per hectare value for SMV purposes.

Determining the per hectare value of vacant land from sales is no different from that of other types of land, in which the factors that would influence a buyer must be considered. The conventional matters of size, shape, topography, as well as location, are always relevant, together with that of soil fertility, rainfall and location to market.

However, in the absence of such sales, adopt the alternate method of 'production' or 'productivity method'.

Given the potential lack of sales, determine a general or aggregate value for agricultural land in a locality and then adjust this value when applying it across a range of properties for which the value is being determined.

The resulting aggregate value is subject to the applicable adjustments expressed in percentage for (i) type of road along/nearest the property and (ii) location of property, such as distance from the public road from the *poblacion* or trading center. These adjustments are no different in concept to those applied to other types of properties (for example an additional 10% or 15% for corner influence in a subdivision), except that they reflect matters of consequence to agricultural users.

Appraisers and assessors should determine the needed adjustments to the general value as a result of road type, lack of access, distance to market, etc. The adjustments must reflect local factors and perceptions (thus, ensuring that values ultimately used for RPT purposes are as accurate as possible and that the tax burden is spread appropriately).

The computation of values begins with determining the area in hectares, productivity and sub-class or sub-classes of an agricultural land parcel. In the case of a parcel of land utilized or planted to various agricultural crops (i.e., rice, corn, coconuts, etc.), the boundaries between each sub-class should be plotted or sketched on the map and the corresponding area should be determined. Each area determined should be multiplied by the applicable unit base value. Be careful in determining the value based on sub-class of production within one parcel. Sometimes, the sub-class existence is a matter of choice by the farmer and may not reflect the most productive use of the land (e.g., an older farmer may choose an easily managed crop, although this may not be to the farmer's greatest financial benefit, and not the highest and best use of the land). In some localities, a particular soil type may predominate which could dictate the productive nature of the property.

The resulting value for each sub-class is computed and summed up to obtain the total base market value of the parcel. To arrive at a final value for SMV, the total base market value is multiplied by the adjustment percentage value as discussed in the succeeding paragraphs.

Below is an example of adjustments that can be used to account for factors such as location, distance and/or road type. The individual adjustment percentages have to be tested in the locality to ensure that they reflect the real influence of distance from the main road, or whatever factor being considered. Be careful when more than one or two factors apply, as these may or may not be cumulative. As shown in other chapters in this Guidebook, the examples below are just examples, and would not necessarily apply in any particular circumstance.

Adjustment elements for consideration and use, <u>if deemed suitable</u> by the appraiser and assessor for the relevant LGU, may be summarized as follows:

Table 29. Agricultural Land Adjustments *(by type of road)*

Type of Road:	Percentage Adjustment
a. Provincial or National Road	No deduction
b. For all-weather road	Unlikely any adjustment; 3% - 5% deduction if badly formed
c. Along Dirt Road	Possibly 5% - 6% deduction
d. No road outlet	Possibly 9% - 10% or greater deduction, subject to nature and permanency of arrangement with neighbor or whichever properties have to be crossed to get to the road.

Table 30. Agricultural Land Adjustments *(by location/distance)*

Distance (km)	All-weather road (%)	Local Trading Center (%)
0 to 1	0	+ 5
Over 1 to 3	- 2	0
Over 3 to 6	- 4	- 2
Over 6 to 9	- 6	- 4
Over 9	- 8	- 6

All weather roads include national, provincial, municipal, and all other public roads.

However, in adopting any adjustment factor, the appraiser and assessor must test the adjustment factor as best as possible in the location concerned. In addition, adjustments for different types of productive land must be applied carefully. For instance, the effect of being remote would have a much smaller effect on an agricultural use where there is an irregular requirement, such as access of heavy equipment to the property (e.g., coconut production compared to dairy/milk production where the dairy products from the land have to be taken to market on a daily basis; in which case, milk-carrying trucks would be using the roads perhaps three hundred times a year, whereas coconut products delivery could be seasonal or intermittent).

NOTE: The distance of a property from all weather roads, railroad stations, landing places along seacoasts and from the trading center or *poblacion* would normally be measured from the access point/driveway/gate of the property from the road, as this is the point where the transport factor would take effect. However, precise measurement is unlikely to be realistic as the market (i.e., typical buyer) will make an adjustment based on their judgment of the problem, and this is not likely to change at any specific distance, but rather phase in steadily as properties become more distant.

EXAMPLE:

Assume that a five-hectare irrigated riceland is capable of producing 204 cavans of palay per hectare annually. It has a unit value of Php150,000 per hectare. Assume further that the rice land is over 3 km from an all weather road and trading center or *poblacion*.

Estimate the market value.

	% Adjustment	**Market Value (Php)**
Unit Base Market Value (UBMV)	100	150,000
Area (Hectare) = 5Ha.		
Base Market Value (BMV)		750,000

Adjustments:

No road outlet	-10
Distance to all weather road	-4
Distance to trading center	-2
Total Percentage Adjustment	-16
% Adjustment to BMV (rounded)	85
Adjusted Market Value	637,500

This is only an example of an adjustment process. The factors would need to be confirmed considering the actual locality and the nature of the actual production.

Cattle Pasture Lands. The value of cattle pasture lands or dairy farm lands is closely related to location, water supply and soil fertility. Location influences costs of transport of the produce, and this can be a major element in some types of agricultural productions (e.g., dairy farms).

However, the major determining factor in agricultural values is soil fertility. The more fertile the soil is, the greater the production will be whether the land is dry or irrigated or close to a city or quite remote. In the case of pasture land, the SMV will be established on a per hectare basis via a similar process of any sales analysis. However, be careful with adopting pasture land values across an LGU.

The fertility of the soil affects production and in a pasture country, this will be reflected on the carrying capacity of the land. A good measure of fertility is the ability of a given size of a parcel of land to carry more or less cattle than any other parcel.

SPECIAL NOTE WHEN CONSIDERING AGRICULTURAL LAND SUITABLE FOR DEVELOPMENT

The presence or likelihood of development in the immediate area of agricultural land can have a distinct effect on value. When assessing agricultural lands for RPT, the core factor is, as usual, 'market value'. If sales of agricultural lands reflect genuine enhancement due to proximity to an urban area, for instance, the effect must be accounted for in the valuation. Obviously, if a parcel of agricultural land was traditionally selling for Php100,000 per hectare and a similar agricultural land adjoining that property is ripe for development and close to an urban area selling at Php300,000 per hectare, then the value is in the proximity of Php300,000 although the land is still used for agricultural purposes at that time. To value the land at Php100,000 would be incorrect as the value is clearly much higher. This is a little different from valuing vacant yet undeveloped land in an urban area wherein a cattle or two may be pastured, although the urban land would have been converted some time ago and clearly would reflect the full value of urban sites.

In the case of an agricultural land ripe for development but is not yet converted, the appraiser and assessor should be satisfied that this land is on the brink of development or ready to be converted. Thus, the values adopted must reflect those of the market. For example, one individual sale at a higher price would not be sufficient to bring about an increase in values for RPT, unless a group of development type sales or consistent evidence are available.

> **EXAMPLE:**

Parcel 1: A 100-hectare land normally supports a particular type of pasture with adequate rainfall and regularly carries about 75 cattle. The property was sold recently for Php30 Million. This amounts to Php300,000 per hectare and is considered to be a fair price by farmers in the area.

Parcel 2: A 100-hectare land with 3 km distance from Parcel 1, and equally distant from markets and cities, with adequate rainfall, etc., normally supports the same particular pasture type and regularly carries about 100 cattle. This parcel was sold recently for Php40 Million. The buyer paid Php400,000 per hectare and is considered a fair price by farmers in the area.

Comment: Each parcel is 100 hectares of apparently similar land and similar use. The properties, although with different values per hectare, actually have the same value when analyzed on a productivity basis.

The measure or unit of comparison for pasture country can be based on the carrying capacity, which reflects the soil fertility. Parcel 1 carries 75 cattle and a farmer is prepared to pay Php30 Million for this land parcel. Thus, a farmer is prepared to pay Php400,000 (Php30,000,000/75) for a portion of land that will support one cattle. Moreover, it will have a higher carrying capacity due to better pasture production.

Parcel 2 carries 100 cattle and a farmer is prepared to pay Php40 Million for this land parcel. Thus, he is prepared to pay Php400,000 (Php40,000,000/100) for a portion of land that will support one cattle.

On this basis, the value of the two properties is consistent, and the farmers have each paid the right price (Php400,000 per portion of land to support one cattle). They have purchased the properties based on a productivity basis. Similarly, a 100-hectare parcel wherein the highest and best use is cattle pasture and supports only 60 cattle would expect to have a value of 60 x Php400,000 = Php24,000,000.

For SMV purposes, assessors must be aware of the typical production/carrying capacity of agricultural properties within their respective LGUs. The value of all cattle pasture lands in an LGU may be the same, and in some cases, may vary depending on the carrying capacity, (i.e. by the number of heads (cattle) or livestock productivity). Land on one side of a hill or close to a river may be far more productive than that of the land on the other side of the hill or farther from the river. The variation due to soil type, exposure to wind and even more sunlight (land on southern facing slopes has greater exposure to the sun and may have a longer and better growing period), and some

of particularly detailed factors of weather or climate need not be taken into account in calculating the SMV. These factors can have substantial influence over production and value.

The Department of Agriculture (DA) provides considerable guidance in formally identifying agricultural properties (i.e., 1st, 2nd, and 4th Class lands for various types of production). For agricultural SMV, the basis is peso per hectare or peso per square meter, and the task of the appraiser and assessor is to establish general values applicable to properties in a location.

In the previous example, the productive capacity is sufficiently different for these locations to have a different base unit value for SMV. The LGU should be aiming for rounded value ranges of 15%. In this case, hectare base unit values would be:

Table 31. Sample Cattle Land Value Range

Value adopted for SMV (Php/Ha)	Range lower limit (Php/Ha)	Range upper limit (Php/Ha)
250,000	250,000	287,499
287,500	287,500	329,999
330,000	330,000	379,999
380,000	380,000	439,999
440,000	440,000	504,999

Values may align well with the productivity classifications provided by the DA, in which case, the LGU only needs to determine the values for the respective classification. The DA's land classification does not limit the assessor or appraiser from further subdividing the classification in cases where the range in value (if any) within a classification would be greater than the acceptable range for the LGU.

The DA classifications are based on productivity and do not consider distance, access, etc. This, in the same manner as residential or industrial land in different locations, will have a value appropriate to their location which reflects the nature of the parcel and services available.

In addition to land value, there will be the 'Improved' component of the property. This include houses, barns and storage facilities, milking shed in a dairy farm (which could have plant machinery and equipment), etc. Fencing can be a substantial element too in properties that carry or raise animals, thus, value must be attributed to these for SMV purposes and must be included with the 'Improvements'.

The value of improvements can be determined by sales analysis (in the same way as residential improvements) whereby transactions involving improvements can be compared to transactions without improvements. If sufficient numbers of transactions are available, the value of various components can be isolated.

In many LGUs, there won't be enough transactions for a reliable sales data analysis. Thus, the improvements' respective values may need to be determined via the Depreciated Replacement (DRC) method. Given the expansive nature of agricultural properties, it is legitimate to use sales from adjoining LGUs to determine values, provided the nature of the location is similar to those areas being valued. This is a case of using information from agricultural sub-market groups across municipalities.

The next section presents sample documents prescribed by the Local Assessment Regulations (1-92) to assist in determining the SMV. The Productivity Classification is determined by the Department of Agriculture.

c. Schedule of Market Value as Basis for Valuation of Agricultural Property

The appraisal/assessment of real property shall be based on the latest schedule of market values, as embodied in an ordinance passed by the Sanggunian. The SMV for agricultural lands covers all agricultural lands, predominantly rural in nature, that are beyond the potential urban limits and generally at a great distance from the *poblacion* of the City or Municipality. The schedule should be in the form herein shown:

Table 32. Sample Schedule of Base Unit Market Value for Agriculture

LANDS	Class and Base Unit Market Value (Per Hectare)			
	1st	2nd	3rd	4th
Rice land, Irrigated				
Rice land, Unirrigated				
Rice land, Upland				
Corn land				
Coconut land				
Sugar land				
Tobacco land				
Bamboo land				
Fishpond				
Nipa land, etc.				
IMPROVEMENTS				
Coconut tree (per tree)				
Bamboo tree (per tree)				
Nipa tree (per hectare)				
Mango tree (per tree)				
Avocado tree (per tree)				

Table 33. Sample Productivity Classification

PRODUCTIVITY CLASSIFICATION					
1st Class	-	Land capable of producing	_____		(unit) of (produce) annually per hectare
2nd Class	-	Land capable of producing	_____ to _____		(unit) of (produce) annually per hectare
3rd Class	-	Land capable of producing	_____ to _____		(unit) of (produce) annually per hectare
4th Class	-	Land capable of producing	_____ to _____		(unit) of (produce) annually per hectare

i. Classifying Agricultural Lands. The principal crop used or predominantly developed in the locality should be the basis of classification of agricultural lands, such as rice land, corn land, coconut land, and other crop land. Each class should be further sub-classified into first, second, third, or more classes based on their productivity.

The productivity classification of several croplands is prepared based on the information from the Department of Agriculture (DA).

The productivity classification of croplands should be determined by the appraiser/assessor based on the annual yield per hectare. Each cropland should use the applicable unit of measure (i.e., cavans for palay, picul for sugar, kilos for fishponds, etc). For fruit bearing trees, the number of fruits should be the basis of measure.

In setting the ranges of annual yield in each class, the appraiser/assessor should ensure that the ranges are reasonable.

ii. Establishing the Schedule of Base Unit Market Values for Agricultural Land. The Schedule of Base Unit Market Value for the different classes of agricultural lands should, as much as possible, be established by the Market Data or Sales Analysis Approach. However, for lack of market data, the Income Capitalization Approach may be used.

In the sales analysis method, unit sale values involving one class of crop should be entered separately in a prescribed form known as DF-RPA (SMV) FORM NO. 2 and consequently adjusted with a location factor as illustrated in DF-RPA (SMV) FORM NO. 2-A (Figure 8).

iii. Using Income Capitalization Approach. In the Income Capitalization Approach, several processes are possible, namely: (a) gross production minus production expense per hectare, (b) rental income per hectare; and (c) income per hectare on sharing basis. However, the capitalization value should be based on income. Capitalization value, which will be considered the market value of the land, must be equal to the net income per hectare divided by the rate of capitalization.

Accordingly, this approach of estimating value requires information on crop production in the area and the generally expected rate of interest on money invested for the preceding years. Crop production and average cost of production may be obtained respectively from the Bureau of Agricultural Extension and the Bureau of Plant Industry, both under the Department of Agriculture, whereas prices of crops can be obtained from the National Food Authority and the Department of Trade and Industry. Interest rate may be sourced from universal, commercial, rural and government banks and from industry itself. Farm gate prices for various agricultural products may be obtained from the Bureau of Agricultural Statistics of the Department of Agriculture and from direct interview of farmers involved in specific agricultural activity.

Table 34. Schedule of Unit Base Market Values for Agricultural Land

Type	Base Unit Market Value (Php/Ha)			
Class	1st	2nd	3rd	4th
Riceland (Irrigated)	309,000	243,000	176,000	110,000
Riceland (Unirrigated)	118,000	91,000	65,000	-
Riceland (Upland)	83,000	61,000	40,000	-
Banana Land (Saba)	975,000	609,000	203,000	-
Cacao Land	175,000	132,000	66,000	44,000
Coconut Land	256,000	220,000	110,000	-
Coffee Land	241,000	181,000	90,000	60,000
Orchard Land	480,000	432,000	336,000	288,000
Root Crops	159,000	119,000	122,000	40,000
Sugar Land	287,000	260,000	202,000	115,000
Other Types of Land	-	-	-	-

The computations for the schedule of unit based market values for agricultural lands found in the table above are presented in the next section of this Chapter.

d. Computing Base Unit Market Value

i. PRODUCTION COST PER HECTARE OF IRRIGATED RICELAND

Table 35. Sample Summary of Costs for Irrigated Riceland

VARIABLE COST	
Labor Cost per Hectare of Irrigated Riceland (Php)	
Seedbed preparation - 3 pad ①	900
Land preparation - 25 pad	7,500
Fertilizer application - 20 pd ②	3,000
Repair of dikes/making, 3 pd	450
Weeding levels, 8pd	1,200
Fertilizer application, 4 pd	600
Harvesting and Threshing ③	9,100
Drying and hauling ④	910
Sub-Total	**23,660**
Materials and Supplies Cost per Hectare of Irrigated Riceland (Php)	
Seeds ⑤	660
Fertilizers ⑥	5,150
Pesticides ⑦	2,959
Jute sack at Php12.00	1,560
Sub-Total	**10,329**
FIXED COST	
Fixed Cost per Hectare of Irrigated Riceland (Php)	
Barangay Guarantee Fund ⑧	1,000
Irrigation Fee ⑨	1,500
Sub-Total	**2,500**
TOTAL PRODUCTION COST (Php)	**36,489**
Potential Yield in Cavans	130
GROSS INCOME (130 cavans x 50kg x Php10/kg)	**65,000**
NET INCOME (Php)	**28,511**

Assumptions:

① Computed at Php300 per person-animal day (pad) for eight working hours per day

② Computed at Php150 per person-day (pd) for eight working hours per day

③ Harvesting and threshing costs at 14% of gross income

④ Drying and hauling is valued at Php7 per cavan

⑤ Amount of seeds needed is computed based on the type of seedling establishment; e.g., *Dapag* seedbed - 44kg/Ha., wet bed - 40kg/Ha. Cost of seed is at Php15/kg

⑥ Based on general recommendation of four bags 14-14-14 at Php815/bag, two bags of urea at Php945/bag are needed. Roots of rice seedlings are soaked in 2% Zinc Oxide (ZnO) suspension before transplanting. For every hectare, 1kg of ZnO is dissolved in 50L of water.

⑦ Based on the following procedures:
    a) Seed soaked in 1.5kg of Furadan at Php70/kg
    b) Seedling dipped in 3.0kg of Furadan
    c) At 15 DAT, apply one bag of insecticide, 16.7kg
    d) At 45 DAT, spray one quart of pesticide
    e) At 70 DAT, apply one quart of insecticide at Php350/bottle, *SOF Fit* at Php675/bottle

⑧ Barrio Guarantee Fund: (2 cavans x 50 kg x Php10/kg = Php1,000)

⑨ Irrigation Fee: (3 cavans x 50kg x Php10/kg) = Php1,500

Computing the Unit Value by Income Capitalization Approach

    Rate of Capitalization = 13.20%
    Potential Yield = 130 cavans
    Capitalized Value = Php28,511/0.132
                        = Php215,992.42

Sales Value, therefore, is **Php215,992.42/130 cavans or Php1,661.48/cavan**. The Rate of Capitalization can be derived from known Sales and Income as shown in Table 23.

Table 36. Computation of Unit Market Value per Hectare for Riceland

Class	Yield (cavans) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Irrigated Rice land based on production (Per Hectare)			
1st Class	186 x 1,661.48	309,035.28	309,000
2nd Class	146 x 1,661.48	242,576.08	243,000
3rd Class	106 x 1,661.48	176,116.88	176,000
4th Class	66 x 1,661.48	109,657.68	110,000
Value for Unirrigated Rice land based on production (Per Hectare)			
1st Class	71 x 1,661.48	117,965.08	118,000
2nd Class	55 x 1,661.48	91,381.40	91,000
3rd Class	39 x 1,661.48	64,797.72	65,000
Value for Upland Rice land based on production (Per Hectare)			
1st Class	50 x 1,661.48	83,074.00	83,000
2nd Class	37 x 1,661.48	61,474.76	61,000
3rd Class	24 x 1,661.48	39,875.52	40,000

ii. PRODUCTION COST PER HECTARE OF BANANA LAND

Table 37. Sample Summary of Costs for Banana Land

VARIABLE COST	
Labor Cost per Hectare of Banana Land (Php)	
Weeding, 1st year 4pd at 150/d	600.00
Succeeding year (3x) 4pd at (150/d)[3]	1,800.00
Fertilization 3x 6pd at (150/d)[3]	2,700.00
Removing old leaves 2x 2pd at (150/d) [2]	600.00
Spraying 2x 4pd at (150/dx4)[2]	1,200.00
Desuckering: 1st year (2x) 3pd at (150x3)[2]	900.00
Succeeding year (2x) 5pd at (150x5)[2]	1,500.00
Harvesting & Hauling	
1st year (2x) 3pd at (150x3)[2]	900.00
Succeeding year (2x) 5md at (150x5)[2]	1,500.00
Sub-Total	**11,700.00**
Materials and Supplies Cost per Hectare of Banana Land (Php)	
Fertilizer	
a) Complete (14-14-14) 10.50 bags at 815/bag	8,557.50
b) Urea (45-0-0) 9 bags at 945/bag	8,505.00
c) Muriate of Potash 30 bags at 885/bag	26,550.00
Chemicals	
a) Insecticides 12L at 270/L	3,240.00
b) Fungicides 6kg at 285/kg	1,710.00
Sub-Total	**48,562.50**
TOTAL PRODUCTION COST (Php)	**60,262.50**
Potential Yield in Kilograms	13,333
GROSS INCOME (13,333kg x Php15/kg)	**199,995**
NET INCOME (Php)	**139,732.50**

Assumptions:
① Planting distance is 4m x 4m or a population density of 625 plants per hectare.
② Planting materials to be used in "sword leaf sucker"
③ Location site has been in cultivation
④ Hiring rate per person day (pd) is Php150.00

⑤ Price of fertilizer are as follows:
   a) Complete (14-14-14)   -   Php815/bag
   b) Urea (45-0-0)   -   Php945/bag
   c) Muriate of Potash   -   Php885/bag
⑥ Insecticides   -   Php270/liter
   Fungicides   -   Php285/liter
⑦ Production/yield
   Average number of hand per bunch is 12
   Average number of fingers per hand is 16
⑧ Farm gate price is Php1.67/finger or Php15/kg (9 fingers to a kilogram)

Computing Unit Market Values by Income Capitalization Approach

Rate of Capitalization   =   12.90%
Potential Yield   =   13,333kg
Capitalized Value   =   Php139,732.50/0.129
                         =   Php1,083,197.67

The Sales Value of Banana Land corresponding to each kilo of banana:
Php1,083,197.67/13,333kg or Php81.24/kg

Table 38. Computation of Unit Market Value per Hectare for Banana Land

Class	Yield (kg) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Banana land based on production (Per Hectare)			
1st Class	12,000 x 81.24	974,880	975,000
2nd Class	7,500 x 81.24	609,300	609.000
3rd Class	2,500 x 81.24	203,100	203,000

iii. PRODUCTION COST PER HECTARE OF CACAO LAND

Table 39. Sample Summary of Costs for Cacao Land

Activities/Materials	Year 1	Year 2
Labor Cost per Hectare of Cacao Land (Php)		
Clearing	1,000	-
Hauling & planting	2,000	-
Planting of shade trees	2,000	-
General clearing/weeding & mulching	1,500	1,500.00
Fertilization	600	600.00
Spraying	400	400.00
Replanting	-	400.00
Pruning	-	1,000.00
Harvesting	-	6,250.00
Post-harvest operation (fermentation, drying, sorting, bagging, breaking)	-	25,000.00
Rehab propagation	-	1,000.00
Sub-Total	**7,500**	**36,150.00**
Materials and Supplies Cost per Hectare of Cacao Land (Php)		
1,000 cacao seedling at Php20	20,000	-
Shade materials at Php5 (1,000 Cacao Seedlings)	5,000	-
Urea at Php945/bag: (3 bags)	2,835	2,835.00
Complete fertilizer at Php815/bag: (3 bags)	2,445	2,445.00
Potash at Php885/bag: 1st (2 bags); 2nd Year (1 bag)	1,770	885.00
Pesticide at Php640/bag: (1 bag)	640	640.00
Replanting materials, 200pcs at Php20 per seedling	-	4,000.00
Sub-Total	**32,690**	**10,805.00**
Farm Tools & Equipment Cost per Hectare of Cacao Land (Php)		
Knapsack Sprayer (1 unit)		2,220.00
Bolo at Php300/pieces: (5pcs)		1,500.00
Sack at Php12/pieces: (300pcs)		3,600.00
Pruning shear at Php500/pieces: (2pcs)		1,000.00
Budding knife at Php250/pieces: (2pcs)		500.00
Sub-Total		**8,800.00**
TOTAL PRODUCTION COST (Average) (Php)		**52,372.50**
GROSS INCOME		**75,000.00**
NET INCOME (Php)		**22,627.50**

Assumptions:

① Estimated yield per year   -   1,001 kg (1ˢᵗ Class)
② Person animal day (pad)   -   Php300/pad
③ Person day (pd)   -   Php150/pd
④ Empty sack   -   Php12/sack
⑤ Cacao   -   Php75/kg

Computing Unit Market Values by Income Capitalization Approach

Rate of Capitalization   =   12.90%

Capitalized Value   =   Php22,627.50/0.129

                         =   Php175,406.98

Sales Value of Cacao Land (Ha) corresponding to price/kilogram:
Php175,406.98/1,001 kg = Php175.23/kg

Table 40. Computation of Unit Market Value per Hectare for Cacao land

Class	Yield (kg) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Cacao land based on production (Per Hectare)			
1ˢᵗ Class	1001 x 175.23	175,406	175,000
2ⁿᵈ Class	$\frac{501+1000}{2}$ x 175.23	131,510	132,000
3ʳᵈ Class	$\frac{251+500}{2}$ x 175.23	65,799	66,000
4ᵗʰ Class	250 x 175.23	43,810	44,000

Assumptions:

① Cost of labor increases by 10% per year

② Price of fertilizer and chemicals increases by 5% per year

③ Labor cost for harvesting and processing increases every two years by Php50

④ 3.5 pieces of coconuts = 1 kilo of copra

⑤ Distance of planting results in approximately 100 trees per hectare

⑥ Person-day (pd) = Php150/pd

⑦ Person-animal day (pad) = Php300/pad

⑧ One bag of copra = 50 kg

Computing Unit Market Values by Income Capitalization Approach

Rate of Capitalization = 12.90%

Capitalized Value = Php30,148.4/0.129

= Php233,708

Sales Value of Coconut Land based on Average Yield:
Php233,708.00/6,400 coconuts = Php36.52/coconut

Table 41. Computation of Unit Market Value per Hectare for Coconut land

Class	Yield (coconut) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Coconut Land based on production (Per Hectare)			
1st Class	7,000 x 36.52	255,640	256,000
2nd Class	6,000 x 36.52	219,120	219,000
3rd Class	3,000 x 36.52	109,560	110,000

iv. PRODUCTION COST PER HECTARE OF COCONUT LAND

Table 42-A. Sample Production Cost per Hectare of Coconut Land (Year 1 - 7)

OPERATION/ACTIVITIES/MATERIALS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
I. Labor Cost (Land Preparation) per hectare (Php)							
a) Plowing	2,100	900	-	-	-	-	-
b) Harrowing	1,200	600	-	-	-	-	-
c) Hauling / Planting / Stalking / Lay-outing	750	-	-	-	-	-	-
d) Fertilizer							
· Basal 1pd	150	-	-	-	-	-	-
· 6 months offer (field planting 2pd)	300	-	-	-	-	-	-
e) Under bushing	-	-	730	800	880	970	1,060
f) Spraying	300	330	360	400	440	480	530
g) Ring weeding	300	330	360	400	440	480	530
h) Fertilizer application	150	165	180	200	220	240	260
II. Materials Cost per hectare (Php)							
a) Seeding 210 pcs. @ P 50.00	10,500	-	-	-	-	-	-
b) Fertilizer							
· Ammonium Sulfate	555	580	600	630	660	690	720
· Potassium Chloride	885	930	970	1,010	1,060	1,110	1,160
c) Chemicals (1qrt)	530	550	570	590	610	640	670
Sub-Total	17,720	4,385	3,770	4,030	4,310	4,610	4,930
TOTAL	43,755						
AVERAGE	6,250						

Table 42-B. Sample Income per Hectare of Coconut Land (Year 7 -11) (Php)

Particulars	Year 7	Year 8	Year 9	Year 10	Year 11	TOTAL	AVERAGE
Number of nuts harvested	4,800	5,600	6,400	7,200	8,000	32,000	6,400
Copra produced/kg	1,371	1,600	1,829	2,057	2,286	9,143	1,828
Price per kilo	20	21	22	23	24	22	22
Sub-Total	27,420	33,600	40,238	47,311	54,864	203,433	40,686
Harvesting & Processing							
Labor cost/1000 nuts	550	600	600	650	650	3,050	610
Total amount	2,640	3,360	3,840	4,680	5,200	19,720	3,944
Transportation cost/bag	13	14	14	15	15	71	14
Total Amount	364	448	518	630	690	2,650	530
Cost of fertilizer and application, ring welding & under bushing	4,920	5,170	5,430	5,700	5,980	27,200	5,440
Sub-Total	8,487	9,592	10,402	11,675	12,535	52,691	10,538
TOTAL	18,933	24,008	29,836	35,636	42,329	150,742	30,148.40
AVERAGE	30,148.40						

Note: Year 7 is the estimated first harvest year for the coconut

v. PRODUCTION COST PER HECTARE OF COFFEE LAND

Table 43-A. Sample Production Cost per Hectare of Coffee Land (Year 1 - 8)

PRODUCTION COST ITEMS	YEAR							
	1	2	3	4	5	6	7	8
A. MATERIALS								
1) 1,111 coffee seedlings at Php10/seedling	11,110	-	-	-	-	-	-	-
2) Shade trees at Php5/tree	5,555	-	-	-	-	-	-	-
3) Urea at Php945/bag	2,835	2,835	2,835	3,308	3,308	3,308	3,308	3,308
4) Complete fertilizer at Php815/bag	2,445	2,445	2,445	2,852	6,520	8,150	8,150	8,150
5) Potash at Php885/bag	1,328	-	-	-	-	-	-	-
6) Pesticide at Php640/quart	640	640	640	1,280	1,280	1,280	1,280	1,280
7) 100 seedlings for replanting	-	1,000	-	-	-	-	-	-
Sub-Total	23,913	6,920	5,920	7,440	11,108	12,738	12,738	12,738
B. LABOR								
1) Clearing	2,000	-	-	-	-	-	-	-
2) Stalling	1,000	-	-	-	-	-	-	-
3) Hauling & Planting at Php2/tree	2,222	-	-	-	-	-	-	-
4) Planting of shade trees at Php2/tree	2,222	-	-	-	-	-	-	-
5) General Clearing & weeding	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000
6) Fertilization (2x a year)	1,000	1,000	1,000	1,500	-	1,000	1,000	1,000
7) Spraying 4pd	600	900	900	900	900	900	900	900
8) Replanting	-	200	-	-	-	-	-	-
9) Pruning shade	-	-	-	1,000	-	-	-	-
10) Pruning Coffee	-	-	-	1,000	1,000	1,000	1,000	1,000
11) Harvesting Php50/cavan	-	-	-	1,750	3,000	4,250	5,250	9,500
12) Drying Php50/cavan	-	-	-	700	1,200	1,200	2,100	3,800
TOTAL	12,044	5,100	4,900	9,850	9,100	11,350	13,250	19,200
GRAND TOTAL	35,957	12,020	10,820	17,290	20,208	24,088	25,988	31,938
AVERAGE	178,309/8 = Php22,288.63							

Table 43-B. Sample Cost and Return Analysis of Coffee Land

Year	PRODUCTION NET					
	Cost per Year (Php)	Dried Beans (Kg)	Green Beans (Kg)	Value (Php)	Income (Php)	% ROI
1	35,957	-	-	-	-	-
2	12,020	-	-	-	-	-
3	10,820	-	-	-	-	-
4	17,290	525	210	25,200	7,910	48
5	20,208	875	350	42,000	21,792	108
6	24,088	1,225	490	58,800	34,212	142
7	25,988	1,575	640	76,800	50,712	195
8	31,938	2,800	1,120	134,400	102,362	321
TOTAL	178,309	7,000	2,810	337,200	217,988	122
AVERAGE	22,289	875	351	42,150	27,248.50	122

Assumptions:

① Coffee seedling at Php10/seedling.

② Temporary & permanent shade tree at Php5/tree

③ Urea at Php945/bag

④ Potash at Php885/bag

⑤ Pesticides at Php640/quart

⑥ Person day (pd) at Php150

⑦ Hauling & planting at Php2/tree

⑧ Harvesting at Php50/cavan

⑨ Drying at Php150/pd

⑩ Price of Green Beans at Php120/kg.

⑪ Milling recovery = 40% of the dried beans

⑫ Estimated yield = 4th year =   0.75kg dried beans/tree/year
                    5th year =   1.25kg dried beans/tree/year
                    6th year =   1.75kg dried beans/tree/year
                    7th year =   2.25kg dried beans/tree/year
                    8th year =   4.00kg dried beans/tree/year

Computing Unit Market Values by Income Capitalization Approach

Rate of Capitalization   =   12.90%

Capitalized Value   =   Php27,248.50/0.129

                          =   Php211,229

Sales Value of Coffee Land corresponding to each kilo of coffee:
Php211,229.00/351kg or **Php601.79/kg**

Table 44. Computation of Unit Market Value per Hectare for Coffee land

Class	Yield (kg) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Coffee Land based on production (Per Hectare)			
1st Class	400 x 601.79	240,716	241,000
2nd Class	$\frac{200+400}{2}$ x601.79	180,537	181,000
3rd Class	$\frac{100+200}{2}$ x 601.79	90,269	90,000
4th Class	100 x 601.79	60,179	60,000

Computing Unit Market Values by Income Capitalization Approach

Rate of Capitalization   =   12.9%

Capitalized Value   =   Php68,553/0.129

                          =   Php531,419

Sales Value of Orchard Land corresponding to each kilo of orchard produce =
Php531,419.00/2,214kg = Php240.02/kg

vi. PRODUCTION COST PER HECTARE OF ORCHARD LAND

Table 45-A. Production Cost per Hectare of Orchard Land

PRODUCTION COST	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10
A. LABOR INPUTS										
Clearing and preparation	2,700	-	-	-	-	-	-	-	-	-
1st plowing followed by harrowing	4,500	-	-	-	-	-	-	-	-	-
2nd plowing with harrowing	3,600	-	-	-	-	-	-	-	-	-
Lining, stalling, digging, planting	1,500	--	-	-	-	-	-	-	-	-
Planting (includes hauling of planting materials)	1,500	-	-	-	-	-	-	-	-	-
Watering (6x in 2-week period)	7,200	-	-	-	-	-	-	-	-	-
Weeding/cultivation	3,600	2,700	2,700	2,700	2,700	2,700	3,150	3,600	3,600	3,600
Fertilization	150	600	600	900	900	900	900	900	900	900
Spraying (2x)	300	900	900	1,800	1,800	1,800	1,200	1,800	1,800	1,800
Replanting	150	-	-	-	-	-	-	-	-	-
Harvesting	-	-	-	600	900	1.500	1,800	2,100	2,400	3,000
Sub-Total	**25,200**	**4,200**	**4,200**	**6,000**	**6,300**	**6,900**	**7,050**	**8,400**	**8,700**	**9,300**
B. MATERIAL INPUTS										
123 grafted seedlings	3,075	-	-	-	-	-	-	-	-	-
12 grafted seedlings for replanting	300	-	-	-	-	-	-	-	-	-
Urea fertilizer (45-0-0)	1,890	1,980	2,080	2,080	2,180	2,180	2,280	2,280	2,280	2,400
Chemical Spray (Pesticide/Fungicide)	1,280	1,280	1,400	1,540	1,540	1,700	1,700	1,880	2,060	2,060
Orchard tools/equipment	5,070	-	-	-	-	-	-	-	-	-
Kaing container at Php150	-	-	-	1,800	3,450	6,750	10,050	12,900	16,200	18,000
Sub-Total	**11,615**	**3,260**	**3,480**	**5,420**	**7,170**	**10,630**	**14,030**	**17,060**	**20,540**	**22,460**
Contingency	**3,680**	**750**	**770**	**1,140**	**1,350**	**1,750**	**2,110**	**2,550**	**2,920**	**3,180**

*Contingency is computed at 10% of Labor and Materials which are imputed costs for pruning, flower inducement and other pre-harvesting activities.

Table 45-B. Cost and Return Analysis of Orchard Land

| YEAR | ESTIMATED EXPENDITURES (Php) | | | PRODUCTION (Php) | | VALUE GROSS INCOME (Php) | Net Income/ Year | Cumulative Net Income (Php) |
	Labor	Material	Contingencies	TOTAL	Fruit/Tree	Fruit/ Hectare			
1	25,200	11,615	3,680	40,495	-	-	-	(40,495)	-
2	4,200	3,260	750	8,210	-	-	-	(8,210)	-48,705
3	4,200	3,480	770	8,450	-	-	-	(8,450)	-57,155
4	6,000	5,420	1,140	12,560	3 kg	1,476	22,140	9,580	-47,575
5	6,300	7,170	1,350	14,820	6 kg	2,952	44,280	29,460	-18,115
6	6,900	10,630	1,750	19,280	12 kg	5,904	88,560	69,280	51,165
7	7,050	14,030	2,110	23,190	18 kg	8,850	132,750	109,560	160,725
8	8,400	17,060	2,550	28,010	23 kg	11,316	169,740	141,730	302,455
9	8,700	20,540	2,920	32,160	29 kg	14,268	214,020	181,860	484,315
10	9,300	22,460	3,180	34,940	32 kg	15,744	236,160	201,220	685,535
Total	86,250	115,665	20,200	222,115			907,650	685,535	
Ave.				22,211			90,765	68,553	

Table 46. Computation of Unit Market Value per Hectare for Orchard Land

Class	Yield (kg) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Orchard Land based on production (Per Hectare)			
1st Class	2001 x 240.02	480,280	480,000
2nd Class	$\frac{2000 + 1{,}601}{2}$ x 240.02	432,156	432,000
3rd Class	$\frac{1{,}600 + 1{,}201}{2}$ x 240.02	336,148	336,000
4th Class	1,200 x 240.02	288,024	288,000

vi. PRODUCTION COST PER HECTARE OF ROOT CROPS LAND

Table 47. Sample Summary of Costs for Root Crops Land

Activities	Unit	Cost
Labor Cost per Hectare of Root Crops Land (Php)		
Land Preparation	23 pad	6,900
Planting	20 pad	3,000
Cultural Management	6 pad	1,800
Harvesting	12 pad	1,800
	4 pad	1,200
	9 pad	1,350
Weeding		1,500
Sub-Total		**17,550**
Materials and Supplies Cost per Hectare of Root Crops Land (Php)		
Planting Materials	-	7,260
Fertilizer (14-14-14)	-	4,890
Insecticides	-	640
Fungicide	-	640
Sub-Total		**13,430**

(Cont...) Table 47. Sample Summary of Costs for Root Crops Land

Activities	Unit	Cost
Farm Tools & Equipment Cost per Hectare of Root Crops Land (Php)		
Knapsack Sprayer	1 pc	2,200
Rake	5 pcs	750
Light Hoe	10 pcs	3,800
Shovel	5 pcs	1,250
Spading Fork	5 pcs	2,500
Bolo	2 pcs	600
Empty Drum	1 pc	300
Sack	300 sacks	3,600
Sub-Total		15,000
TOTAL PRODUCTION COST (Average) (Php)		45,980
ESTIMATED YIELD in Kilograms		20,000
GROSS INCOME (20,000kg x Php5)		100,000
NET INCOME (Php)		54,020

Assumptions:
A. Cost of labor Php300/pd; Php150.00/pd
B. Materials and supplies
    1. Planting materials at 0.30/cutting   = 33,000 cutting + 10%
    2. Fertilizer (14-14-14)   = 6 bags at Php815/bag
    3. Insecticide   = 1 qrt at Php675/qrt
    4. Fungicide   = 1 qrt at Php640/qrt
C. Tools and Equipment
    1 unit knapsack spray (17 liters cap)   = Php2,200
    5 pcs rake   = Php150/pc
    10 pcs light hoe   = Php380/pc
    5 pcs spading fork   = Php500/pc
    5 pcs shovel   = Php250/pc
    2 pcs bolo   = Php300/pc
    1 pc empty drum   = Php300/pc
    300 pcs sacks   = Php12/pc

Computing Unit Market Values by Income Capitalization Approach

Rate of Capitalization   =   12.90%

Capitalized Value   =   Php54,020/0.129

                         =   Php418,760

Sales Value of Root Crop Land corresponding to each kilo of root crops =
Php418,760/100kg = Php418.34/kg

Table 48. Computation of Unit Market Value per Hectare for Root Crops Land

Class	Yield (kg) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Root Crops Land based on production (Per Hectare)			
1st Class	19,000 x 418.34	158,788.00	159,000.00
2nd Class	$\frac{5,000 + 18,000}{2}$ x 18.95	119,051.00	119,000.00
3rd Class	$\frac{251 + 500}{2}$ x 158.63	122,000.00	122,000.00
4th Class	250 x 158.63	39,657.50	40,000.00

viii. PRODUCTION COST PER HECTARE OF SUGAR LAND

Table 49. Sample Summary of Cost per Hectare of Sugar Land

Activities/Materials	Year 1	Year 2
Labor Cost per Hectare of Sugar Land (Php)		
Land Preparation (tractor)	1,600	-
Planting: 20 pd	3,000	-
Weeding	2,000	2,000
Fertilizer	2,000	2,000
Harvesting	9,000	9,000
Sub-Total	**17,600**	**13,000**
Materials and Supplies Cost per Hectare of Sugar Land (Php)		
Planting Materials	20,000	-
Urea: 10 bags	9,450	9,450
Complete fertilizer: 10 bags	8,150	8,150
Potash: 10 bags	8,850	8,850
Sub-Total	**46,450**	**26,450**
Farm Tools & Equipment Cost per Hectare of Cacao Land (Php)		
Bolo: 5pcs		1,500
Light Hoe: 10 pcs		3,800
Rake: 5 pcs		750
Sub-Total		**6,050**
TOTAL PRODUCTION COST (Php)		**57,800**
ESTIMATED YIELD in Kilograms		**8 tons**
GROSS INCOME (Php134,000 x 8 tons)		**107,200**
NET INCOME (Php)		**49,400**

Computing Unit Market Values by Income Capitalization Method

Rate of Capitalization = 12.90%

Capitalized Value = Php49,400/0.129

= Php382,946

Sales Value of Sugar Land corresponding to each kilo of sugar cane:

Php382,946.00/8,000kg* or **Php47.87/kg**

(* 1 ton = 1,000kg)

Table 50. Computation of Unit Market Value per Hectare for Sugar Land

Class	Yield (kg) x Sales Value (Php)	Hectare Value (Php)	Rounded Off
Value for Sugar Land based on production (Per Hectare)			
1st Class	6,000 x 47.87	287,220	287,000
2nd Class	5,430 x 47.87	259,934	260,000
3rd Class	4,030 x 47.87	192,916	193,000
4th Class	2,400 x 47.87	114,888	115,000

ix. SAMPLE PRODUCTIVITY OF AGRICULTURAL LAND

Riceland with Irrigation Facilities (cavans of palay annually per hectare):
First Class   -   More than 165 cavans
Second Class   -   126 to 165 cavans
Third Class   -   Less than 86 cavans

Riceland without Irrigation Facilities (cavans of palay annually per hectare):
First Class   -   More than 63 cavans
Second Class   -   47 to 63 cavans
Third Class   -   Less than 47 cavans

Riceland Upland (cavans of palay annually per hectare):
First Class   -   More than 43 cavans
Second Class   -   30 to 43 cavans
Third Class   -   Less than 30 cavans

Banana Land (kilograms of banana annually per hectare):
First Class   -   More than 10,00 kg
Second Class   -   5,000 to 10,000 kg
Third Class   -   Less than 5,000 kg

Cacao Land (kilograms of dried beans annually per hectare):
First Class   -   More than 1,000 kg
Second Class   -   501 to 1,000 kg
Third Class   -   250 to 500 kg
Fourth Class   -   Less than 250 kg

Citrus Land: (See Orchard)

Coconut Land (coconuts annually per hectare):
First Class   -   More than 70 coconuts
Second Class -   50 to 70 coconuts
Third Class   -   Less than 50 coconuts

Coffee Land (kilograms of raw coffee beans annually per hectare):
First Class   -   More than 600 kg
Second Class -   401 to 600 kg
Third Class   -   200 to 400 kg
Fourth Class   -   Less than 200 kg

Corn Land (cavans of corn annually per hectare):
First Class   -   More than 44 cavans
Second Class -   28 to 44 cavans
Third Class   -   Less than 28 cavans

Orchard Lands (kilograms annually per hectare):
First Class   -   More than 2,000 kg
Second Class -   1,600 to 2,000 kg
Third Class   -   1,200 to 1,600 kg
Fourth Class   -   Less than 1,200 kg

Rootcrops Land (metric tons rootcrops annually per hectare):
First Class   -   More than 18 metric tons
Second Class -   5 to 18 metric tons
Third Class   -   Less than 5 metric tons

Sugar Lands (piculs of sugar annually per hectare):
First Class   -   More than 100 piculs
Second Class -   81 to 100 piculs
Third Class   -   61 to 80 piculs
Fourth Class   -   40 to 60 piculs
Fifth Class   -   Less than 40 piculs

APPRAISAL OF BUILDINGS

Buildings should generally be classified in accordance with the structural designs for which they are intended, regardless of their actual use, such as residential, commercial, industrial, or agricultural. The classification system should embrace only such structures commonly found in cities or provinces.

For purposes of establishing the different schedules of base unit cost, each type of building should further be grouped in accordance with the kind and quality of materials used for construction, such as Type V-A to C; Type IV-A to B; Type III-A to B; Type II-A to C; and Type I. Standard base specifications should then be prepared to define and describe each type.

Structures falling under one classification are not all an exact replica of each other, or of the standard adopted in preparing the schedule of value. It follows, therefore, that their values are not exactly equal, although their areas and classification may be the same. To compensate for this difference in value, a set of adjustment factors must be prepared to go with the schedule. It should only treat items that are commonly found deviating from the standard and may be expressed as percentage of the base construction costs listed in the schedule. Addition and deduction factors may be prepared through quantitative analysis method.

ESTABLISHING ON-SITE IMPROVEMENT VALUES

On-site improvements are improvements outside the property that influences its value such as paved roads, drainage, utilities, etc. By far, the best method of establishing the value added by improvements is through direct comparison with sales of improvements of the same nature as the subject property. This involves the least amount of adjustments and is essentially 'direct'.

For mass appraisal purposes, the Depreciated Replacement Cost method is commonly used to determine the value added of improvements. Such method is adequate where the costs are properly assembled, and the depreciation rates are linked to reality and not set on an inappropriate and arbitrary formula. Local factors will determine local depreciation and the assessor should assemble its own depreciation table for the LGU.

Before progressing further, building types should be clarified first.

Types of Construction. For purposes of this Guidebook and to be consistent with the provisions of the National Building Code, all buildings should be classified or identified according to the types set out below. Note that some older versions of the Assessor's Manual will not reflect the changes made on the National Building Code and may have the building codes reversed. The types categorized below only include a summary description. Full description and sub-categories are set out in Appendix 4: Types of Construction.

Type I *(Buildings of wood construction.)* The structural elements may be any of the materials permitted as follows: Nipa houses and similar structures fall under this type.

Type II *(Buildings of wood construction with protective fire-resistant materials and capable of being one-hour fire-resistive throughout)* Except, that permanent, non-bearing partitions may use fire-retardant treated wood within the framing assembly.

Type III *(Buildings shall be of masonry and wood construction.)* Structural elements may be any of the materials permitted by the National Building Code: Provided, that the building should be one-hour fire resistive throughout. Exterior wall should be of incombustible fire-resistive construction.

Type IV *(Buildings of steel, iron, concrete, or masonry construction.)* Walls, ceilings, and permanent partitions should be of incombustible fire resistive construction: Except, that permanent non-bearing partitions of one-hour fire-resistive construction may use fire-retardant treated wood within the framing assembly.

Type V *(Buildings should be fire-resistive.)* The structural elements should be of steel, iron, concrete, or masonry construction. Walls, ceilings, and permanent partitions should be of incombustible fire-resistive construction

Actual value added by improvements (buildings) and depreciation can be determined from sales of developed properties by separating the land value from the overall value/selling price, then establishing a 'unit value' for improvements by considering the particular age and condition.

When considering the building types above and the quality of construction, the LGU may find it worthwhile to 'cost' the model buildings by categorizing them into 'Good', 'Fair', and 'Poor' Construction. This grouping, however, is different from 'Good', 'Fair', and 'Poor' condition, as discussed in Appendix 1 and Appendix 2. For example, a Type IV building in a particular LGU can easily be of some very high quality and carefully built houses noted as 'Good', whereas some

houses could be of typical quality or 'Fair', and others having low quality fittings (which can be assumed for owners who intended to keep the cost as low as possible), would be classified as 'Poor' quality for its construction type. However, most houses will be of the 'Fair' construction type.

If there are sufficient buildings to warrant a category, then it is the LGU's prerogative to adopt such a category of 'Good,' 'Fair,' 'Poor'.

The subsequent sections in this chapter will discuss a number of sales of properties in a location with the same construction category and condition. The actual construction type or quality is not relevant to the calculation in the example and the process would be the same for any Type or Quality. These are analyzed to show the value added by the improvements.

The two key elements in analyzing sales are the land and building values. In order to focus on these two elements, any additional improvements should be deducted from the sale price.

EXAMPLE:

Given:

Property A	**Property B**
Land Area = 200m²	Land Area = 180m² (9m x 20m)
Total Building Area (2S) = 160m²	Unit Value = Php3,000/m²
Building Age = New	Building Age = 5 years old
Selling Price = Php1.85M	Depreciation Rate = 5.5%
With Block Fences = 60lm	Total Building Area (2S) = 140m²
Paving = 83m² at 800/m²	Selling Price = Php1.45M
	Block Fence = 58lm
	With Block fences = Php1,200/lm

Determine land value and building value of Property B

Land Value	= 180m² x Php3,000/m²
	= Php540,000
Block Fences	= Perimeter x Php1,200/lm
	= 58lm x Php1,200/lm
	= Php69,600
Depreciated Building Value	= Php1,450,000 - Php540,000 - Php69,600
	= Php840,400
Building Value New	= Php840,400/(100%-5.5%)
	= Php889,312

Building Unit Value $= \text{Php}889{,}312/140\text{m}^2$
$= \text{Php}6{,}352/\text{m}^2$
$= \text{Php}6{,}500/\text{m}^2$

Applying derived unit values to Property A:

Value of Building $= 180\text{m}^2 \text{ x Php}6{,}500/\text{m}^2$
$= \text{Php}1{,}170{,}000$

Value of Fence $= 60\text{lm x Php}1{,}200/\text{lm} = \text{Php}72{,}000$

Value of Pavement $= 83\text{m}^2 \text{ x Php}800/\text{m}^2 = \text{Php}66{,}400$

Value of Land (Parcel 1) $= \text{Php}1{,}850{,}000 - \text{Php}1{,}170{,}000 - \text{Php}72{,}000$
$- \text{Php}66{,}400$
$= \text{Php}541{,}600$

Unit Value of Land $= \text{Php}541{,}600/200\text{m}^2$
$= \text{Php}2{,}708/\text{m}^2 = \text{Php}2{,}700/\text{m}^2$

Consider another similar residential property in the same sub-market area, referred to as Property C, comprised of a well-maintained house of 150m^2 on a land with an area of 200m^2. The property is well fenced valued at Php70,000, although there is no paving of substance. The value calculation for Property C would be:

Value of Land (Php2,700/m² x 200m²)	Php540,000
Add: Added value of house (Php6,500 x 150m²)	Php975,000
Value of land and buildings	Php1,515,000
Add: (substantial fence)	Php70,000
Total value of the property	Php1,585,000

Again, it is unlikely for real life examples to work as neatly as those in this Guidebook. However, sufficient examples will reveal a pattern in many instances. This pattern is what the assessor/appraiser is looking for. The resulting values may then be applied *en masse* to the properties in the LGU while recognizing that some properties will not fit the mould, and thus, would have to be dealt with independently.

The property market in the Philippines is often opportunistic and uninformed, thus appraisers, valuers and assessors often have to make professional judgments on some of these factors of value, given that market evidence is unlikely to be as crisp as in the above example. Nevertheless, with properties changing hands from time to time and appraisers keeping an eye on transactions, various values are established, particularly when Replacement Cost New is easily discovered (which usually sets the upper limit of value).

Based on the previous process, the following more complex example is the next step in understanding the market-related cost approach to values of improvements.

Table 51. Sample Sales Data

Sale	Age	Total Sale	Bldg	Land	Land UV/m²	Additions		Remarks (Bldg Cond/Desc, Lot Desc, Yr of Sale)
1	10	1,090,000	124	240	2,200	Fencing	30,000	Fair, Yr 2004
2	14	950,000	130	200	2,250	Fence & Path	32,000	Fair, Yr 2004
3	6	915,000	95	180	2,250	Poor Fence	15,000	Fair, Yr 2005
4	5	1,135,000	115	200	2,250	Garage	85,000	Fair, Yr 2005
5	8	1,300,000	131	220	2,900	Fence & Path	40,000	Fair, Corner Lot, Yr 2005
6	3	1,990,000	220	200	2,750	Garage, Pavement & Fence	120,000	Fair, 2S, Yr 2006
7	15	1,060,000	120	200	2,750	Garage and Fence	65,000	Fair, Yr 2006
8	18	955,000	92	200	3,000	Fence & Path	50,000	Fair, Yr 2007

Listed in a date of sale order, the information that can be deduced are:

Table 52. Deduced Unit Value of Building

Sale	Age	Total Sale	Bldg	Land	Land UV/m²	Land Value	Additions	Building Value	Unit Value (Building)
1	10	1,090,000	124	240	2,200	528,000	30,000	532,000	4,290
2	14	950,000	130	200	2,250	450,000	32,000	468,000	3,600
3	6	915,000	95	180	2,250	405,000	15,000	495,000	5,210
4	5	1,135,000	115	200	2,250	450,000	85,000	600,000	5,220
5	8	1,300,000	131	220	2,900	638,000	40,000	622,000	4,750
6	3	1,990,000	220	200	2,750	550,000	120,000	1,320,000	6,000
7	15	1,060,000	120	200	2,750	550,000	65,000	445,000	3,710
8	18	955,000	92	200	3,000	600,000	50,000	305,000	3,320

Where: Land Value = Land Area x Land UV
Building Value = Total sale - Land Value - Additions
Unit Value (Building) = Value (building) / Building Area

**Table 53. Table of Values Added by Building Developed
from Sales Analysis and Replacement Cost New**

Sale	Age	Date of Sale	Unit Value (Building)	Replace Cost New at time of sale (Php/m²)	% Drop From New Price	Average Annual Depreciation (%)
1	10	2004	4,290	5,950	-27.90	-2.79
2	14	2004	3,600	5,950	-39.50	-2.82
3	6	2005	5,210	6,250	-16.64	-2.77
4	5	2005	5,220	6,250	-16.48	-3.30
5	8	2005	4,750	6,250	-24.00	-3.00
6	3	2006	6,000	6,650	-9.77	-3.26
7	15	2006	3,710	6,650	-44.21	-2.95
8	18	2007	3,320	7,000	-52.57	-2.92

Where: % Drop from New Price = (Unit Value of Building - RCN)/RCN x 100%
Average Annual Depreciation (%) = % Drop from New Price/Age

From the above analysis, there are eight individual unit value rates for buildings of the same construction type and condition in the same general location or in the same sub-market group (even if not in the same location/vicinity as each other). The finishing of the building affects its price even if the general construction type is similar. As can be deduced from the table, the annual depreciation are relatively similar. This shows that the unit value of the buildings resemble the type III construction.

VALUATION OF COMMERCIAL AND INDUSTRIAL BUILDINGS

The value of buildings can be determined by a number of methods including:
    a. Depreciated Replacement Cost (DRC)
    b. Capitalization of Income (less land value)
    c. Discounted Cash Flow (less land value), discussed in Chapter 3, and
    d. Hypothetical Development, will be discussed in Chapter 6.

A. Depreciated Replacement Cost (DRC)

The Depreciated Replacement Cost (DRC) approach (sometimes referred to as Replacement Cost New Less Depreciation) is the most common method of determining the value of buildings or other improvements for LGU purposes. This method requires the appraiser to establish the Replacement Cost (new) of the building, then adjust this downwards for its depreciation factor.

For LGU purposes, this is a reliable and equitable method of determining value as replacement cost is readily determined, and depreciation can be attributed over the life of the building.

If the expected economic life of the building can be determined, depreciation can be allocated by a 'straight line' method over the life of the building, or more correctly linked to the real rate of depreciation as can be calculated based on sales of properties (buildings) of the same nature and of various ages. Ultimately, whichever method is adopted and whatever depreciation rate is applied, as long as it is reasonable, the method is logical and the resulting tax is equitable, there will be no problem with the process.

Building cost information is a regular element in SMV and other valuation tasks. Information with regard to all elements of materials and labor in the construction process of various buildings is collected regularly by appraisers, which allows total construction cost of a model building to be calculated as if new. As discussed earlier, the Replacement Cost must include any and all costs of design and plans or drawings, consultant fees, permit costs and other related expenses and profits a builder or developer would make. It should also include costs of additional improvements such as paving, fencing, and other structures that form part of the property.

For appraisal purposes, it is not necessary to compute every single item contained within a building. Many assessors have existing lists of item contained in standard properties of different construction types. Whenever a revision takes place, these lists are costed, consequently establishing the Replacement Cost New. Although this can be very accurate, it is not always necessary. Considering that an LGU is undertaking a mass appraisal, with many rounding-off in the calculations, the presence or absence of some conduit elbows will have no effect on the values adopted.

It is perfectly adequate to establish "unit costs" for various types of buildings based on actual construction costs of buildings recently constructed. This information is best obtained from transactions, such as in a situation where a property is sold with a new shop, factory or office building constructed, and the building cost can be obtained from the builder. This cost includes the design and the builder's profit, so it should be based on the full price set out in any building contract plus variations to the contract, and on the basic cost of labour and materials or the costs of the builder in carrying out the work.

From an LGU perspective, it is much simpler to adopt the unit rates of construction for particular buildings and construction types than to maintain a full and costed Bill of Quantities for each

type of building that exists in the LGU. This is particularly important for LGUs that contain large numbers of complex buildings or multi-storey buildings with many features and fixtures. Builders and developers prepare the most detailed costs when undertaking such projects. Given that these costing are already prepared, it is better to use them when available.

Nevertheless, LGUs can maintain a table of building item costs to ascertain the Replacement Cost New of the various type and class of construction within the LGU.

Table 54. Sample Computation of a Type V-C-1 One Family Residence

TYPE   **:**   **V-C-1**

CLASSIFICATION   **:**   **One Family Residence**

FLOOR AREA   **:**   47m²

Item	Description	Quantity	Unit Cost	TOTAL (Php)
A. Materials				
1. Concrete and masonry				70,232.00
2. Reinforcing steel bars				29,515.00
3. Lumber and carpentry				131,596.00
4. Roofing works				32,265.00
5. Hardware and millery				4,049.00
6. Electrical works	lump sum materials	1 lot		13,382.85
7. Plumbing works	lump sum materials	1 lot		8,029.70
		Total Cost of Materials		289,069.55
B. Labor & Equipment Rental (35-50% of materials)				101,174.34
C. Developer's Profit/Overhead Expenses (6% of A+B)				23,414.63
D. Other fees & charges (lump sum)				18,000.00
TOTAL REPLACEMENT COST				**431,658.53**
COST PER SQUARE METER (Php/m²)				**9,184.22**
Rounded off (Php/m²)				**9,200.00**

(Refer to the Bill of Materials submitted to the Engineering Office)
Note: Add or Deduct for Variation from Base Specification

Table 55. Sample Computation of an Added Improvement

TYPE	:	I
CLASSIFICATION	:	Shed (other than Sched 11-12)
FLOOR AREA	:	40m²

Item	Description	Quantity	Unit Cost	TOTAL (Php)
A. Materials				
1. Concrete and masonry				4,000.00
2. Reinforcing steel bars				
3. Lumber and carpentry				15,208.00
4. Roofing works				4,056.15
5. Hardware and millery				528.00
6. Electrical works	lump sum materials	1 lot		
7. Plumbing works	lump sum materials	1 lot		
		Total Cost of Materials		23,792.15
B. Labor & Equipment Rental(30-50% of materials)				7,137.65
C. Developer's Profit/Overhead Expenses (6% of A+B)				
D. Other fees & charges (lump sum)				
		TOTAL REPLACEMENT COST		**30,929.80**
		COST PER SQUARE METER (Php/m²)		**773.25**
		Rounded off (Php/m²)		**800.00**

Note: Add or Deduct for Variation from Base Specification

Table 56. Sample SMV for Buildings

Type of Buildings	One Family Dwelling *(Temporary/ Makeshift)* (Php)	Boarding House Lodging House Convent Funeral Parlor Dormitory (Php)	ACCESSORY BUILDING Garage Quarters Laundry House Annex Guardhouse (Php)	Two Family Dwelling Multiple Dwelling Rowhouse Townhouse Duplex, Apartelle, Apartment Bldg (Php)
TYPE V				
A	11,000	8,100	8,300	7,700
B	10,000	7,200	7,300	7,000
C	9,200	6,900	7,100	6,800
TYPE IV				
A	8,800	6,700	6,900	6,600
B	8,300	6,300	6,700	6,200
TYPE III				
A	6,200	6,000	6,000	5,500

(Cont...) Table 57. Electrical Items Costing for 100m² Warehouse. *(excludes labor)*

Type of Buildings	One Family Dwelling *(Temporary/ Makeshift)* (Php)	Boarding House Lodging House Convent Funeral Parlor Dormitory (Php)	ACCESSORY BUILDING Garage Quarters Laundry House Annex Guardhouse (Php)	Two Family Dwelling Multiple Dwelling Rowhouse Townhouse Duplex, Apartelle, Apartment Bldg (Php)
B	5,400	5,800	5,800	5,300
C	5,200	5,100	5,500	4,800
D	4,500	-	4,700	4,300
TYPE II	2,000	-	-	-
TYPE I	1,500	-	-	-

Note: *To arrive at the unit construction cost of a certain type of building, the costing of materials should show the detailed computation using quantitative cost approach for each item of work. In actual practice, costing of materials must be shown unlike the given sample computation above.*

A table of building costs can list every item in a building and can be separated by trade or building component and include every major and minor item required and represented, as shown below:

Table 57. Electrical Items Costing for 100m² Warehouse *(excludes labor)*

Electrical Items	Quantity	Unit Costs (Php)	Total (Php)
40W Fluorescent Lamp	8 sets	240.00	1,920.00
Duplex Switch	4 pc	280.00	1,120.00
Duplex Convenience Outlet	6 pc	280.00	1,680.00
Utility Box w/o Cover	4 pc	22.00	88.00
Junction Box w/ Cover	4 pc	22.50	90.00
Receptacle	8 pc	22.50	180.00
2mm² T.W. Cu Wire	1 roll	780.00	780.00
3.5mm² T.W. Cu Wire	1 roll	1,110.00	1,110.00
8mm² THW. Cu Wire	36 m	51.50	1,854.00
Circuit Breaker, 1-40A, 2P	1 unit	1,500.00	1,500.00
Branches: 1-15 A, 2-20A, 1-Spare			
12mm Diameter x 150m Non-Metallic	1 roll	750.00	750.00
Flexible Conduit			
12mm Diameter x 3m PVC	8 pc	48.00	384.00
20mm Diameter x 3m PVC Schd. 40	2 m	70.00	140.00
Plastic Electrical Tape	8 rolls	30.00	240.00
Service Entrance Cap 20mm Diameter	1 pc	70.00	70.00

Electrical Items	Quantity	Unit Costs (Php)	Total (Php)
PVC Schd. 40 Elbow 90⁰ x 20mm Diameter	1 pc	8.50	8.50
PVC Schd. 40 Coupling 2mm Diameter	2 pc	8.50	17.00
		Total	**11,931.50**

During a revision and in determining RCN based on the table of costs, it is not necessary to re-itemize every single component in a particular building type. The LGU normally has a schedule of quantity for each building type and the items therein only need re-costing with quantities unchanged. From these detailed schedules, the final RCN can be determined. It is important, however, to ensure that the costs include profit and other elements.

The detailed schedule of costs can lead to a summary table of costs:

Table 58. Summary of Costs (Php)
(profit not included)

SUMMARY TITLE : Factory, Warehouse, Bodega, Storage, etc. AREA : 100m² (V-A)	
Items	**Price**
I. Forms & Scaffolding	25,725.00
II. Doors, Door Jambs & Accessories	8,060.00
III. Windows	20,800.00
IV. Concreting & Masonry	133,062.00
V. Trusses & Roofing	130,482.00
VI. Electrical	11,932.00
VII. Painting (5%)	26,405.00
TOTAL MATERIAL COST	**356,466.00**
Labor (40%)	142,586.40
Contingencies (5% - 10%)	17,823.30
TOTAL COST	**516,875.70**
VIII. Excavation & Mobilization	12,240.00
GRAND TOTAL	**529,115.70**
Rounded-off	**530,000.00**

For the SMV, the Schedule of Building Costs would show the unit cost as Php5,300/m² for this type of building. Examples of SMV unit costs can be found in Appendix 5: Sample Ordinance.

In this case, the builder's profit has to be added to the actual construction cost. If 25% profit is added, the cost of a 100m² building rises to Php661,394 (Php660,000). In the RCN less depreciation exercise for differently sized buildings, the square meter rate of Php6,600 could be applied. The depreciation factors (percentage in value per year) will apply to this rate.

Accuracy in costing is encouraged -- balance needs to be achieved in obtaining fine costing details when other elements can be massively rounded off (e.g., labor, contingencies, profit, etc.). In the case above, the whole 'electrical' element represents just 1.8% of the costs, which this can be absorbed by 2% change in the labor cost. Therefore, the presence of only one or as many as 10 20mm conduit elbows at Php8.50 each makes little difference.

If all costing elements were wrong, then the valuation would be erroneous.

Ultimately, the aim is to establish some reliable costs per square meter for those types of buildings within the LGU. Once these new costs are established, they can be applied directly to new construction or can be adopted using a depreciation rate for older buildings.

The VDIS stores information relating to model buildings which can be easily extracted for SMV revision purposes. This provides the RCN for the SMV.

EXAMPLE 1

A retailer has purchased a shop site in an expanding retail area. The retailer then constructs a basic two-level building comprised of an open floor space, a small kitchen and staff comfort room at each level. The retailer pays a builder Php3M to design and construct this building of 400m² in total area.

This is an ideal situation for an LGU contemplating RCN. The contract price divided by the building area provides a good guide to RCN. In this case, the construction cost is Php7,500/m². If an LGU can locate three or four buildings of a similar nature and price, then there is little need to search further for RCN information for this building type. The market has done the job.

The sales or contract information from adjoining LGUs can be used as long as the circumstances of the LGU and the contract are compatible with the LGU in question. The cost of a building in one site is unlikely to be different from that of a similar building just a few kilometers away in a different LGU. Going outside the LGUs' own boundaries in search of comparable information should not be a problem. In fact, sharing of information between LGUs is healthy and leads to a more uniform valuations across the country.

EXAMPLE 2

A commercial property comprising 600m^2 of land and a new two-storey building of 800m^2 (two levels of 400m^2 each) was sold recently for Php20M. The seller owned the land for several years prior to developing and later selling the whole property.

The land has a value (based on recent comparable sales) of Php6M. Thus, at first glance, the amount attributable to the building would be Php14M. Upon further examination, however, it will reveal that there are really three elements of the whole transaction namely, (1) Land, (2) Building, and (3) Profit to the seller-developer. The calculated building cost of Php14M will be much higher than the real cost of the building.

In this case, the profits gained by the seller-developer and the building contractor must be separated actual construction cost of the building. In some cases, the builder will be the developer. It can then be difficult to determine which profit comes from building and from development. Thus, the required analysis is not simple.

However, in this example, the seller-developer entered into an agreement with the builder to carry out the works. The key to establish the building cost for 'Replacement Cost New' purposes is the contract price pegged by the building to the developer. In this case, the contract price would be Php11M which shows a Replacement Cost New of Php13,750/ m^2. The difference of Php3M from the Php11M construction cost and the Php14M selling price is the seller-developer's profit for undertaking the exercise and for risking capital. The Php14M should not be adopted as the Replacement Cost New as the amount is too high and includes non-construction elements.

Calculating RCN is only part of the exercise when determining 'added value of improvements'. Adopting a depreciation rate now needs to be considered.

Depreciation. If a building is new, appropriate to the site, and contributes to the highest and best use of the property, then the building will generally have an added value in its construction cost.

However, when a building is not new, then it adds something less than its replacement cost due to depreciation. Depreciation is the loss of value from "cost-new" to its present day value. Accrued depreciation includes loss in value from physical deterioration, functional, and external or economic obsolescence.

The issue in an appraisal situation is whether or not commercial or industrial buildings depreciate at an even rate over their economic life. In which case, a 'straight line' depreciation from the time they were newly built until the time they shall have been completely wasted would indicate that there is no additional value to the land.

In reality, buildings do not depreciate evenly over their life as various components depreciate at different times, both from a physical perspective (which can often simply be the wearing out of the building due to weather and related physical forces) and from an economic perspective.

As industrial or commercial trends and manufacturing processes change, so does the usefulness (utility) of a building. Utility is not so much an issue in the case of simple buildings, such as shops or a warehouse that basically consist of a floor, four walls and a roof to provide a sheltered space for an activity, but more so applies to buildings that have particular uses or constraints. Note that older office buildings, with small group or individual offices spaces, in quite good condition compared to the modern open plan offices with easily movable portable partitions and work spaces, have a considerable depreciated value due to being less desirable.

Another consideration are the older type warehouses that are not suited to containerized freight. These buildings are presumed to be perfectly sound and functional, but as more goods are transported in shipping containers, the value of these buildings drops beyond their normally expected rate. Quite often, another use or occupant will take over the property, but often for a 'lesser' use and may not be prepared to pay the expected rent. A building or property that cannot cope with trucks loaded with containers is not as valuable as one that can, simply because the building lacks versatility. Considering its peso value at any particular point in time, this may not be easily measured, although the difference could be substantial over the life of a building.

Rapid depreciation occurs if the use of buildings is no longer relevant. For example, consider a building designed for processing of local agricultural products or perhaps an abattoir. Over a period of time (e.g., five years), the locality changes and the area no longer produces these products. Although the building is still in perfectly good condition and can function, there is no demand in the local market for this type of facility. What does the building add in value? The building asset depreciated substantially due to economic obsolescence.

Another example may be a fully functional gas station, which is not particularly old, but the nature of the location changed due to a road diversion and the site use is no longer appropriate. The buyer demolished the gas station in order to build a retail store.

However, in the majority of cases, this rapid change will not occur, and the task of the appraiser is to reduce the value of the building over a period in order to reflect the drop in value over time.

The best method is to determine from sales of similar properties. This can be done by analyzing an appropriate sale (preferably a number of sales) to determine the added value of the improvements, allocating the appropriate portion to the building under consideration and then (on a square meter basis) relating this to the replacement cost new. A series of these analysis will provide a good guide to depreciation. Note that the appraiser is trying to establish some levels of value applicable to properties for SMV purposes. The result would be Php/m^2 values for older buildings, or a percentage

that can be applied to the RCN of any particular building, resulting from the depreciated value of the buildings.

Depreciation is also measured by the reduction in rent or market value of a building. This reduction in rent for instance is a reflection of the depreciation.

EXAMPLE

Consider the following situation and analyze how an LGU may extract depreciation information from the sale.

A sale occurs of a 12-year-old office property. The property comprises a 400m² parcel of land and the building is built across the whole site. The building is of solid concrete construction and is Type IV-B in good condition. The building comprises a ground level and three upper levels. The property sold recently for Php27,000,000. Land values in the area are Php18,000/m² to Php20,000/m². As this is a good site, the land is considered to have a value of Php20,000/m², a total of Php8,000,000. At the time of sale, the property was rented out through a recently negotiated long term lease for Php1,680,000/annum. (For purposes of illustration outgoings/expenses are ignored).

A simple sales analysis would reveal the following:

Indicated rent per m² = Php1,620,000/1,600 = Php1,012.50/m² (Php1,000/m²)
Return on Capital (Capitalization Rate) = 1,680,000/27,000,000 = 6.22%

Value added to the site by the building = Php27M – Php8M = Php19M/1,600m² = Php11,875/m².

The above analysis provides a guide to added value and capitalization rates.

By comparing the value attributed to the building against the RCN of a building, it can be concluded that depreciation occurred. In this case, the RCN is Php15,000/m². The building value was Php11,875/m². Thus, the value of the 12-year-old building is Php11,875/Php15,000 = 79.16% (80%). This example indicates that a 12-year-old building has depreciated about 20% or 1.66% per year. To establish a reliable pattern, a number of sales would have to be assembled and analyzed against the RCN, with a table developed setting out the depreciation. It is likely that the rate of depreciation will vary, depending on the age of the building.

Given that there may be insufficient sales in the LGU, incorporating analyzed depreciation information from adjoining LGUs is accepted in order to build a reliable depreciation table.

It is also very important to be constantly aware that depreciation is not just physical (i.e., for how long a concrete wall will stand or how long a steel roof will last), but influenced by all those factors which contribute to value such as desirability, economic utility, etc.

Having established a pattern of depreciation, the percentage factors can be applied to all buildings of a particular nature. However, the difference in depreciation rates for various structure types must be considered carefully.

In cases where a building had been regularly maintained to a high level or had received an upgrade, the depreciation rate is likely to be less than normal. In such circumstances, the effective age of the building is less than the actual age. Thus, for depreciation purposes, the 'age' is the effective age. In the example above, if a similarly aged building was very well-maintained and with refurbishment, the building itself might be as desirable and as good as an eight-year-old building. This may then be classified as eight years old with an annual depreciation rate 1.66% or 13.3% for eight years, rather than the full depreciation amount.

As such, the age of buildings can be altered to reflect their effective age when calculating the value of buildings for SMV. This would increase the building's value, and consequently, the RPT payable for the component. A building that is unusually poor in condition or that suffered some calamity may be rated as older than its numerical age. Thus, the effective age of a 15-year-old building that had suffered some damage might be 20 years.

Calamities such as a fire can bring about rapid depreciation. In the case of a large retail complex completely gutted by fire, the building on the site becomes a major detriment and reduces the value of the land due to the cost of demolition. In this case, it is likely that the walls are not suitable for future use due to damage from heat. Moreover, the time delay and demolition costs could decrease the site's value (even lower than the value of an ordinary vacant land in the locality) due to the enormous expenses to prepare the site for development.

Some buildings are versatile and can lend themselves to other uses, and are easy to maintain or renovate. Others, perhaps like a restaurant which has customized kitchens and other facilities, may depreciate rapidly if demand for restaurants in the area falls and if the building cannot readily be put to another use, although the building is still in perfectly good condition.

If it can be established that a straight line depreciation rate is realistic, then this can be adopted. Straight line depreciation assumes that the building depreciates evenly over its economic life. In which case, a building that has a life span of 40 years would depreciate evenly at 2.5% per year until the end of 40 years where no value is added to the land.

It must be kept in mind that the RCN is recalculated every time a general revision is undertaken. The RCN is based on the Schedule of Base Unit Construction Costs which is assembled by the LGU for revision purposes. In the early life of a building, it is possible that the depreciated value

will increase from one revision to the next, even though the building is depreciating. This will occur when building costs are rising faster than depreciation of the building.

Consider a building with a 40-year life span (straight line depreciation) depreciating at 2.5% per year. If building costs are increasing at 10% over the period of three years between the general revisions, the following would be the case:

- Base year new building costs Php1M. Building contributes fully to highest and best use; thus, cost equals value.

- Depreciation is at 2.5% straight line over the lifespan of the building. The building is now 3 years old (7.5% total depreciation); thus, the added value of building at revision time could be Php925,000 (Php1,000,000 less Php75,000 or Php25,000 multiplied by 3 years representing the depreciation).

- Building costs over the 3 years have risen by 10%. Thus, the RCN of the building at the time of revision would be Php1,100,000. Depreciation would still be at 2.5% per year, or Php27,500:

$$Php27,500 \text{ x } 3 \text{ years} = Php82,500$$

- Thus, the depreciated value of the building is:

$$Php1,100,000 - Php82,500 = Php1,017,500$$

Hence, despite the revision, the building value itself is increasing. At times of high inflation or during a building boom when material may be in short supply or more expensive than usual, this situation may even be exaggerated. In this case, a more reliable method of calculating depreciation is by analysis of sales.

B. Capitalization Approach

The principles of capitalization are discussed extensively in this Guidebook, with expanded discussions and illustrations in the case of commercial, industrial and retail properties.

Capitalization is the valuation of property (or some other asset) on an income basis or a potential income basis. Capitalization is the term used in converting a regular income into capital value. The appraiser/valuer is concerned with the present worth of the future potential benefits derivable from the property.

The capitalization rate expresses a fixed relationship (usually expressed as a percentage) between the two qualities of income and value, and is used as a means of measurement in the valuation process.

This process initially requires a known sales price and a calculated net income of a property. In many cases, the net income will be unknown, thus, various costs and expenses (financial outgoings) may have to be adopted to deduce the net income from the gross income information. The 'gross income' is the total amount receivable by the landlord.

The capitalization concept comprises three main factors: (1) market value, (2) rental value, and (3) capitalization rate. If any two of these factors are known, the other can be calculated.

In certain instances, calculating reliable outgoings may not be possible and capitalization may be calculated on a gross income basis. The gross income basis has potential for considerable error. In reality, landlord or property owner can only keep the net amount of the rental income after deducting expenses, thus, any individual property may have a high rent. If this rent is also associated with high expenses, then the amount actually retained by the landlord will not be as much as would at first appear.

In essence, capitalization determines and expresses the market value as a multiplier of the annual income, or more correctly, it expresses the income as a percentage of the value. For example, a property worth Php2,000,000 with a return of Php250,000 per annum would have a capitalization rate of 12.5% (i.e., Php250,000/Php2,000,000 = 0.125 or 12.5%). This shows that the annual income is 12.5% of the selling price (value), thus, the 12.5% capitalization rate.

DEPRECIATION IN MASS APPRAISAL

The next step in the pre-appraisal setup is to establish market depreciation measures (depreciation benchmarks and depreciation schedules) for the reappraisal area.

Depreciation is the difference between the replacement cost new (i.e., current replacement cost) and the present value of an improvement. It measures the loss in value from all sources that occurred over the life of an improvement.

The value of an improvement will be equivalent to its replacement cost only when it is new or equal to new (when it is appropriate), and when it contributes to the highest and best use of the property. The difference between new cost and value may be due to several causes, such as wear and tear, changes in design or usage standards, social perceptions, changes in the character of the locality, and many other reasons.

Depreciation can be divided into three main categories:

1. *Physical deterioration:* due to wear and tear, assorted damage, vermin/ pest infestation, weather, etc. Physical deterioration can usually be repaired and the effects of depreciation from these causes can be overcome.

2. *Functional Obsolescence:* changes in desirability or inadequate design for modern times (may have no further use for this type of structure), etc. Functional obsolescence can sometimes be overcome by extensive alterations or reconstruction. The cost of this work is a reflection of the drop in value due to obsolescence.

3. *Economic Obsolescence:* results from the changes in the industry perhaps re-zoning (e.g., building is good and still useful but industry location changes resulting in the building no longer contributing to its highest and best use). Economic obsolescence usually comes as a result of changes outside the property where the building may still be fine, but no longer economically usable or profitable. In the case of residential property, economic obsolescence is not surely a major factor in depreciation.

The assessor or appraiser is responsible for conducting and documenting the study. Depreciation benchmarks should be recorded by improvement type and by class, as discussed earlier in this Guidebook, and should be done as follows:

- To create a depreciation benchmark, a typical property which had been sold must be located and the following steps taken: Adjust the sale price for such things as time, personal property, and additions or alterations made after the sale occurred;

- Estimate the price paid for the land using the land values from the locality of each property being studied;

- Measure and compute the replacement cost of improvements using local cost factors. Note any functional or external obsolescence;

- Subtract the value of the land from the adjusted sales price to arrive at an indicated total improvement value;

- Subtract the depreciated value of Other Land Improvements (OLI) to find the house and attached carport/garage value only; and

- Divide the residual house and carport/garage value by the replacement cost new (of a house and garage) to arrive at the present condition (percent good) indicated by the market.

The benchmark property, therefore, is the property which has provided the information to allow the depreciation factor for particular class/type and age of building be calculated.

Present Condition (Remaining Percent Good). After identifying the class and estimated replacement cost new of an improvement, the assessor/appraiser should estimate the present condition (remaining percent good of the property). The present condition (remaining percent good) is helpful in dealing

with the market-related cost approach and ties the cost approach to the market by measuring the present condition (remaining percent good) after all forms of depreciation have been determined.

Example of measuring Present Condition (Remaining Percent Good):

Adjusted sale price	Php1,150,000
Less: Value (including other land improvements)	(200,000)
Total improvement residual value	950,000
Less: Depreciated value of improvements	(20,000)
Residual value of house and carport/garage	Php930,000
RCN house and carport/garage	Php1,070,000
Remaining Percent Good (Php930,000/Php1,070,000)	87%

In this example, the present condition of remaining 87% good represents a judgment by the appraiser of the remaining percent good of the improvement after the market had been accounted for physical depreciation, and functional and external obsolescence.

Table 53 shows an analysis of depreciation reflected by sales, in the order these sales occurred. By sorting the age of the building using the sales information from the same table, a far more useful set of information is obtained, as follows:

Table 59. Sample Depreciation Rate Table *(in order of property age)*

Sale	Year	Age (Years)	Derived Value (Php/m²)	Replacement Cost New at time of sale (Php/m2)	Percentage Drop From New Price	Depreciation (%)
6	2006	3	6,000	6,650	9.77	3.26
4	2005	5	5,200	6,250	16.80	3.36
3	2005	6	5,100	6,250	18.40	3.07
5	2005	8	4,750	6,250	24.00	3.00
1	2004	10	4,300	5,950	27.73	2.77
2	2004	14	3,600	5,950	39.50	2.82
7	2006	15	3,700	6,650	44.36	2.96
8	2007	18	3,300	7,000	52.86	2.94

The derived value per square meter drops with the age of the house and the replacement cost has risen by 17% (from Php6,000 - Php7,000) over the three years of the study period (i.e., from 2004 to 2007). More importantly, the annual average depreciation rate reduced as the properties aged. This indicates that as the property ages, the annual depreciation rate itself starts to reduce, which has a

moderating effect on the overall depreciation rate. The specific annual depreciation in the first few years, as shown in Table 59, is 3.3% whereas by the time the property is 18 years old, the specific annual depreciation rate has slowed to 2.9%.

From the example above, the Average Annual Depreciation Rate shown in the last column is almost consistent from age six years and older. The depreciation rates in various LGUs for various property types need to be plotted to determine the real figures. In Table 59, only eight sales are included for clarity of the example. However, a table with 25 to 30 sales over the same period would provide more accurate depreciation rates.

The sample Depreciation Rate Table indicates the percentage reduction in value in relation to the new cost at the time of sale. When plotted, the depreciation line would show a steeper decline over the first period, and then a reduction in the rate of depreciation. The slight increase towards the right end of the line would represent Sale No. 7 (15 years old) which showed a slightly higher annual depreciation than the two transactions (Sale Nos. 2 and 8) being 14 and 18 years old, respectively. A larger sample may have overcome this abnormality, although the transaction does not interrupt the general trend, particularly given that Sale No. 7 showed a 2.96% annual depreciation whereas the preceding and subsequent sales showed 2.82% and 2.94%, respectively, of which the difference is insignificant.

Although there is insufficient evidence in the samples to determine the annual rates properly, the following rates can be speculated (note that a greater number of sales would provide more convincing information as mentioned):

Table 60. Annual Depreciation in Relation to Years

Years	Annual Depreciation (%)
First 5	3.5
Second 5	3
Third 5	2.5
Fourth 5	2

To test Table 60, consider:

Sale 4. Transaction shows a five-year-old property has depreciated by 16%
Expectation shows a five-year-old property would depreciate by 17.5%

Sale 1. Transaction shows a 10-year-old property has depreciated by 28%
Expectation shows a 10-year-old property would depreciate by 32.5%

Sale 7. Transaction shows a 15-year-old property has depreciated by 44%
Expectation shows a 15-year-old property would depreciate by 45%

Sale 8. Transaction shows an 18-year-old property has depreciated by 53%
Expectation shows an 18-year-old property would depreciate by 51%

None of the samples have a difference of more than 5% from the actual benchmark property, thus, the previously determined depreciation rate can be adopted as the formal depreciation rate for such property type. As properties age, it is more difficult to determine the depreciation from market transactions accurately, and thus, a higher 'error' between the expectation and any specific sale is acceptable. A difference of 5 percentage points for a 5-year-old property is a much more dramatic margin than 5 percentage points on a 20-year-old property.

Given that there are five major construction types, each with a 'Good', 'Fair' or 'Poor' category, the LGU could establish 15 tables (5 types x 3 quality categories) and show the square meter values for each year level over 30 years, or whatever age range exists in a particular construction type. When the time comes for appraisal, the value added of improvements can be calculated by:

Value of Actual Improvement for LGU purposes = Type of Construction x Quality x Age x Area (m²) x Value Added (Php/m²)

Typical value of 'other improvements' (such as fences, paving and outbuildings) may be added to arrive at the total value of improvements.

This is not difficult to do using a hand calculator, and particularly simply using a spreadsheet computer application, which can automatically calculate total values provided that data are available.

Depreciation Table Based on Effective Age. Once the depreciation benchmarks are completed, the market value present condition indicators (remaining percent good) must be incorporated in the Depreciation Table. To produce an accurate Depreciation Table, only benchmarks of properties that are typical to the neighborhood should be used. Sales of properties exhibiting unusual functional obsolescence that have been recently remodelled or had a change of use should not be included in this portion of the study.

One method of constructing a Depreciation Table is to tabulate the preliminary depreciation benchmarks to give a range for each class, type and age. Thereafter, the proper remaining percent good can be chosen for each actual age grouping. From this base information, a Depreciation Table for all actual ages can be developed.

Table 61 sets out the percentage of depreciation that may be appropriate in a certain LGU. From this table, the remaining percent good can easily be determined. The resulting Depreciation Table (showing the drop in value from 100%) or the remaining life (remaining percent good) provides the same information, although displayed in a different manner. The table sets out depreciation in five-year periods for various classes of building. There are 11 classes shown in the table. If the LGU wishes to refine the class of building by adding sub-categories of 'Good', 'Fair', or 'Poor' for each classification, the assessor can do so, which would potentially require another 22 tables. Table 61 can be assumed to represent fair quality construction.

Table 61. Sample Depreciation Calculation Table (%)

Type	V	V-B	V-C	IV-A	IV-B	III-A&B	III-C&D	III-E	II-A*	II-B*	I*
No. Of Years											
Each year of 1st 5 years	2.75	2.8	3	3.5	4	4.5	4.5	4.5	5	6	7.5
Progressive Depreciation	13.75	14	15	17.5	20	22.5	22.5	22.5	25	30	38
Each year of 2nd 5 years	2.75	2.8	2.8	3.5	3.5	4	4	4.5	4.5	5	7
Progressive Depreciation	27.5	28	29	35	37.5	42.5	42.5	45	47.5	55	73
Each year of 3rd 5 years	2.5	2.5	2.5	3	3.5	3.5	4	4	4	4	5
Progressive Depreciation	40	40	41	50	55	60	62.5	65	67.5	75	95
Each year of 4th 5 years	2	2.5	2.3	2	3	3	3.5	3.5	3.5	3.5	
Progressive Depreciation	50	53	53	60	70	75	80	82.5	85	85	95
Each year after 20 Years	1	1.3	1.5	1.5	1.5	2	2	2			
Residual Value	25	25	25	20	20	15	15	15	15	15	5
Years to get to Residual Value	45	38	35	33.3	26.7	25	22.5	21	20	18	15

Indicates that buildings may have 'fully depreciated' and reached residual value prior to conclusion of the 20-year period. The table provides a guide only, and LGUs should consider development of their own tables based on local conditions and local research.

Table 61 shows that buildings with better quality depreciate much slower than those with poorer quality. The above calculations provide the depreciation factor (percentage of depreciation from new) for house improvements of the particular type and era.

The table may further be expanded if displayed on an annual basis, although no particular building depreciates at a prescriptive rate, and actual depreciation is probably erratic at times (subject to weather and market interpretation, etc.).

Table 62. Sample Depreciation Table

% DEPRECIATION (Represented by Remaining Percentage Good)					
Year	(Value at end-of-year compared to new)				
	Type of Construction				
	V	IV	III	II	I
1	97.25	96.50	95.50	95.00	92.50
2	94.50	93.00	91.00	90.00	85.00
3	91.75	89.50	86.50	85.00	77.50
4	89.00	86.00	82.00	80.00	70.00
5	86.25	82.50	77.50	75.00	62.50
6	83.50	79.00	73.50	70.50	55.50
7	80.75	75.50	69.50	66.00	48.50
8	78.00	72.00	65.50	61.50	41.50
9	75.25	68.50	61.50	57.00	34.50
10	72.50	65.00	57.50	52.50	27.50
11	70.00	62.00	54.00	48.50	22.50
12	67.50	59.00	50.50	44.50	17.50
13	65.00	56.00	47.00	40.50	12.50
14	62.50	53.00	43.50	36.50	7.50
15	60.00	50.00	40.00	32.50	2.50
16	58.00	48.00	37.00	29.00	-
17	56.00	46.00	34.00	25.50	-
18	54.00	44.00	31.00	22.00	-
19	52.00	42.00	28.00	18.50	-
20	50.00	40.00	25.00	15.00	-
21	49.00	38.50	23.00	-	-
22	48.00	37.00	21.00	-	-
23	47.00	35.50	19.00	-	-
24	46.00	34.00	17.00	-	-
25	45.00	32.50	15.00	-	-
26	44.00	31.00	13.00	-	-
27	43.00	29.50	11.00	-	-
28	42.00	28.00	9.00	-	-
29	41.00	26.50	7.00	-	-
30	40.00	25.00	5.00	-	-

Classification of Buildings by Type and Sub-Group

Buildings may be grouped, as follows:

a. Residential Buildings
   (1) Single Detached
   (2) Duplex
   (3) Apartments or Row Houses
   (4) Town Houses
   (5) Condominiums

b. Commercial Buildings
   (1) Office
   (2) Bank
   (3) Theater
   (4) Hotel/ Motel
   (5) Parking Buildings
   (6) Etc

c. Industrial Buildings
   (1) Factory
   (2) Warehouses or *Bodega*

d. Agricultural Structures
   (1) Barn
   (2) Poultry House
   (3) Stable
   (4) Hog House
   (5) Greenhouse

STANDARD FORMS AND FORMATS OF SCHEDULE OF MARKET VALUES

For purposes of uniformity, the Schedule of Market Values should be prepared and submitted in the format prescribed under the *Manual on Real Property Appraisal and Assessment Operations,* including the forms which will be used to support its preparations, namely;

a. GR Form 1. Office Order/Schedule of Base Unit Market Values for Residential, Commercial and Industrial Land Building (including Land Value Map)

b. GR Form 2. Criteria for Sub-Classification of Urban Lands

c. GR Form 3. Statement of Sales Values of Residential, Commercial and Industrial Lands

d. GR Form 4. Tabulation of Sales Values for each Class of Residential, Commercial and Industrial Lands

e. GR Form 5. Computation for the Unit Base Market Value of Urban Lands

f. GR Form 6. Schedule of Unit Base Market Value for Agricultural Lands

g. GR Form 7. Statement of Sales Values of Agricultural Lands

h. GR Form 8. Tabulation of Sales Values for each Class of Agricultural Lands

i. GR Form 9. Computation for the Unit Base Market Value of Agricultural Lands

j. GR Form 10. Schedule of Base Unit Cost for Building (Including Classification of Building/Structures and Type of Construction)

k. GR Form 11. Schedule of Depreciation

l. GR Form 12. Schedule of Unit Cost for Extra Items

m. Computation for Unit Cost of Buildings

n. Miscellaneous Provisions

5

Plant, Machinery and Equipment

INTRODUCTION

Machinery is deemed as real property for purposes of real property taxation; thus, subject to assessment for annual levy.

Machinery is defined in the Local Government Code (LGC) under Section 199 (o) as follows:

> *"Machinery embraces machines, equipment, mechanical contrivances, instruments, appliances or apparatus, which may not be attached, permanently or temporarily to the real property. It includes the physical facilities for production, the installations and appurtenant service facilities, those which are mobile, self-powered or self-propelled, and those not permanently attached to the real property which are actually, directly, and exclusively used to meet the needs of the particular industry, business or activity and which by their very nature and purpose are designed for or necessary to its manufacturing, mining, logging, commercial, industrial or agricultural purposes."*

The above provision of the LGC has been clarified under Article 290 (o) of its Implementing Rules and Regulations (IRR) as follows:

> *"Physical facilities for production, installations and appurtenant service facilities, those which are mobile, self-powered, or self-propelled and those not permanently attached to the real property shall be classified as real property, provided that:*
>
> > *(1) They are actually, directly, and exclusively used to meet the needs of the particular industry, business, or activity; and*
> >
> > *(2) By their very nature and purpose are designed for, or necessary to manufacturing, mining, logging, commercial, industrial or agricultural purposes.*

Machinery which are of general purpose use including but not limited to office equipment, typewriters, telephone equipment, breakable or easily damaged containers (glass or cartons), micro computers, fax, telex machines, cash dispensers, furniture and fixtures, freezers, refrigerators, display cases or racks, fruit juice or beverage automatic dispensing machines which are not directly and exclusively used to meet the needs of a particular industry, business or activity shall not be considered within the definition of machinery under this Rule.

Residential machinery shall include machines, equipment, appliances or apparatus permanently attached to residential land and improvements or those immovable by destination.''

Interpreting the definition of machinery is complex and is subject to many and ongoing court cases and rulings. As an example, significant decisions on the treatment of fast food outlets, banking equipment and mining machinery have had a major impact on the interpretation of the definition of what is deemed for "general purpose use". It is, therefore, imperative that assessors/appraisers continue to update themselves on the latest court decisions and issuances.

Thus, 'machinery and equipment' are those items of specific production that apply to an industry, and are not generic items used by many and varied industries for multiple purposes.

DISCUSSION OF VALUATION APPROACH

RELATIONSHIP TO THE PHILIPPINE VALUATION STANDARDS

The Philippine Valuation Guidance Note 3 (Valuation of Plant, Machinery and Equipment) provides the standard in valuing plant, machinery and equipment in the Philippines. As such, it provides the scope, definition, valuation approaches, relationship to accounting standards, and guidance in valuing plant, machinery and equipment when undertaken as an individual valuation assignment by an appropriately qualified valuer. It is based upon, and is compliant with, the International Valuation Standards.

Valuation aims to produce a reasonably accurate assessment of the 'market' or 'fair' value of the assets. It is, therefore, necessary to know the contents of Philippine Valuation Guidance Note 3 (Valuation of Plant, Machinery and Equipment) and to establish a sound and accurate valuation methodology, within the confines of the requirement to undertake a large number of valuations, with limited expertise and within a limited cost and time.

LOCAL GOVERNMENT CODE OF 1991 – IMPLEMENTING RULES AND REGULATIONS

Section 224 of the Local Government Code (LGC), entitled Appraisal and Assessment of Machinery (Article 315 of the Implementing Rules and Regulations), sets out the valuation approach for appraising machinery and equipment for real property tax purposes:

> "*a) The Fair Market Value of a brand-new machinery shall be the acquisition cost. In all other cases, the Fair Market Value shall be determined by dividing the remaining economic life of the machinery by its estimated economic life and multiplied by the replacement or reproduction cost.*"

> "*b) If the machinery is imported, the acquisition cost includes freight, insurance, bank and other charges, brokerage, arrastre and handling, duties and taxes, plus the cost of inland transportation, handling and installation charges at the present site. The cost in foreign currency of imported machinery shall be converted to peso cost on the basis of the foreign currency exchange rates as fixed by the Central Bank.*"

Section 225/Article 316 - Depreciation Allowance for Machinery provides that:

> "*For purposes of assessment, a depreciation allowance shall be made for machinery at a rate not exceeding five percent (5%) of its original cost or its replacement or reproduction cost, as the case may be, for each year of use provided that the remaining value for all kinds of machinery shall be fixed at not less than twenty percent (20%) of such original, replacement, or reproduction cost for so long as the machinery is useful and in operation.*"

The LGC fixes the maximum rate for depreciation of plant, machinery and equipment for real property tax purposes. In reality, however, some machinery (particularly electronic equipment) will depreciate faster than this. This is a statutory depreciation rate, and unless altered, must be applied.

Depreciation rates and tables for plant, machinery and equipment have been produced by various authorities at different times. An examination of the depreciation rate schedule shows that, generally these are not appropriate for RPT purposes as they are either out of date (i.e., do not contain

information on modern equipment) or have been produced for other purposes such as for financial reporting.

Given the statutory 5% prescription of maximum depreciation and 20% residual value of machinery for RPT purposes, the lack of appropriate table may not be a problem in most cases, as the prescribed rate will have to be applied.

VALUATION METHODOLOGIES

The valuation methodologies described in this Chapter have been developed specifically for the purpose of levying an annual real property tax on identified taxable items. It may not be appropriate to apply these valuation methodologies for other purposes.

The Cost Approach and the Market Approach are the usual methods used to appraise machinery and equipment. For RPT purposes, the cost approach to value is generally used because of limited market comparables.

Under the Cost Approach or the Depreciated Replacement Cost (DRC), a cost estimate is made to replace the asset or group of assets appraised in accordance with current market prices for similar assets. Allowances (deduction) are also allotted for accrued depreciation from condition, utility, age, wear and tear, or present obsolescence (physical, functional or economic), while considering past maintenance policy, repairs and rebuilding history. The cost approach generally furnishes the most reliable indication of value for assets when there is little direct evidence available from market activity.

The Market Approach, on the other hand, considers recent prices for similar items, with adjustment made in the indicated market prices to reflect the condition and utility of the appraised items relative to comparable items in the market. Items or assets with active second-hand market may be valued by this approach.

The basic procedure in the valuation of plant, machinery and equipment is as follows:

1. Conduct thorough inspection of machinery and equipment
2. Determine the basis of valuation/methodology
3. Estimate the Replacement Cost New (RCN) if using the cost approach
4. Gather and analyze the market data if using the market approach
5. Determine the loss in value (depreciation) resulting from physical deterioration, and functional and economic obsolescence.

USING COST APPROACH

The valuation process using the cost approach involves two major steps:

1. Estimating the Replacement Cost New (RCN) of the property as of the date of valuation; and
2. Deducting the loss in value caused by depreciation from all causes to arrive at the market value of the plant, machinery and equipment.

Replacement Cost New is the amount required to acquire a similar new asset having the nearest equivalent utility as the property being appraised. It considers the current prices of materials, equipment, labor, contractor's overhead, profit and fees, and all other cost associated with its acquisition, installation and construction, but without provision for overtime or bonuses for labor and premium for materials.

Depreciation is the loss in value from any cause in comparison with a new item or property of similar kind resulting from physical deterioration, and functional and economic obsolescence.

The Local Government Code (Section 234) requires the appraisal of machinery for annual real property tax purposes to be based on its acquisition cost to the owner if the machinery is brand new. Second-hand or used machinery is based on the remaining economic life divided by its total economic life then multiplied by its replacement cost, taking into account the actual condition at the reference date. The owner is presumed to know or have this information. In order to support the appraisal, the owner (or responsible officer in case of a corporation) is required to provide the Declared Value or Sworn Statement/Self-Assessment Return regarding such assets every three years (Section 202) or within 60 days after the acquisition of such property or upon completion of the improvements, whichever comes earlier (Section 203). This should provide a description of the machinery, the date of acquisition, the actual cost of acquisition (including all direct and indirect costs) and any relevant additional information. A sample of the Sworn Statement Form (Figure 9) is shown on the next page.

As part of the valuation process, costs incurred in foreign currency should be converted into Philippine peso using the *Banko Sentral ng Pilipinas* foreign currency exchange rate prevailing at the time the machinery was actually purchased.

Stage 1 – Estimating the Replacement Cost New (RCN)

The first stage in the valuation process is to estimate the RCN.

1. The two major elements of cost involved in estimating the RCN are the Direct Costs and the Indirect Costs.

Figure 8. Sample Sworn of Statement

SWORN STATEMENT INDEX NO. _____

SWORN STATEMENT OF THE TRUE CURRENT AND FAIR MARKET VALUE OF REAL PROPERTIES

(Taxable or Exempt)

(Required under Section 202/203 of Republic Act No. 7160)

I, _____, of legal age, _____ and with postal address at
(Civil Status)   *(Citizenship)*

_____, after having been duly sworn to in accordance with law hereby depose and say :

1. That I am the _____ of the following real properties, (lands, buildings, machineries or other improvements)
(Owner or Administrator or Authorized Representative)
located in the city/municipality of _____, province of _____
owned by _____ of which the description and true current and fair market value/s are as follows:
(State Name of Owner/s if filed by administrative or authorized representative)

A. LAND (Residential, Commercial, Industrial, Agricultural, Special)

Existing Tax Dec. No.	Lot No.	Block No.	Cadastral/ PLS No.	Title	Area Ha./ Sq.M.	Classification (Res.,Agr., Com., etc.)	Location of Property (St./Dist./Barangay)	Total Current and Fair Market Value

B. BUILDING AND OTHER STRUCTURES

Existing Tax Dec. No.	Total Floor Area in (Sq.M.)	No. Storey	General Description	Year Completed/ Occupied	Actual Use	Owner of Lot Where Bldg. Is Located	Location of Property (No./St./Dist/Barangay)	True Current and Fair Market Value

C. MACHINERIES

Existing Tax Dec. No.	Description	Date Acquired	Date Commenced Operation	Original Acquisition Cost	Cost of Installation on Site	Value of Depreciation	Location of Property (St/Dist/Barangay)	True Current and Fair Market Value

OTHER IMPROVEMENTS (Perennial Trees/Plants)

Existing Tax Dec. No.	Kinds of Trees/ Plants	No. of Trees/ Hec./ Productive	Annual Product per Tree/Plant	No. of Trees/ Hec. & Ages Non-Productive	True Current and Fair Market Value Productive	Non-Productive

2. That I am executing this sworn statement in compliance with Republic Act No. 7160

IN WITNESS WHEREOF, I have hereunto affixed my signature this _____ day of _____, _____ at _____, if thumbmarks require signatures of two (2) witnesses:

_____
Signature

_____   _____
(Witness)   (Witness)

TIN _____

SUBSCRIBED AND SWORN to before me this _____ day of _____, 19 __, affiant exhibiting his/her Community Tax Certificate No. A-_____

issued on _____ at _____, Philippines.

_____
(Signature of Administering Officer)

TIN _____

Note:
1) *Include in this sworn statement only real property owned or administered by the affiant in one municipality or city.*
2) *Prepare three (3) copies and after having been subscribed to by the affiant, submit the same to the Provincial, City, Municipal Assessor, or Municipal Deputy Assessor or Ex-Officio Deputy Assessor of the province, city or municipality where the property is located; the original and duplicate to be retained by receiving office and the triplicate to be returned to the affiant after receipt thereof has been duly acknowledge.*
3) *Write "NEW" under column "Existing Tax Dec. No." for property not previously declared.*
4) *Original acquisition cost of Machinery ....*

i) <u>Direct Costs</u> are those elements of costs directly related to the acquisition and installation of the unit, such as the basic cost, freight charges, insurance, bank charges and commission, duties and taxes, other landing charges and handling and cost of transportation to site.

ii) <u>Indirect Costs</u> are those elements of costs not directly related to the acquisition of a specific item of the property, but relates to the installation and acquisition of the entire property, such as design and engineering, technical know-how, and pre-operating expenses.

2. The factors to be considered in estimating the RCN of plant, machinery and equipment include:

- Cost of basic machine
- Cost of auxiliaries and/or optional accessories
- Freight from source to the site including crating/ packing charges
- Insurance
- Bank charges
- Brokerage, wharfage, arrastre, and heavy lifts
- Customs duties and taxes
- Installation which include controls and wiring, electrical and mechanical connections, Millwright work, and foundations.
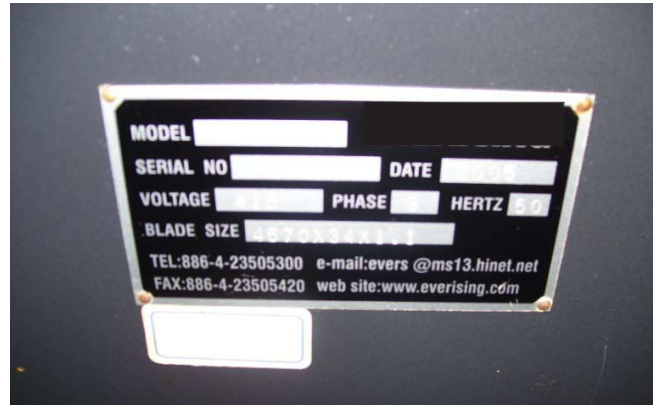
In identifying machinery for purposes of appraisal, it is worthwhile to obtain the following information (where applicable) in order to properly identify the item/s concerned.

a. Generic description (i.e., pumps, lathes, shapers, transformers, etc.)
b. Brand name or manufacturer's name
c. General identifiers (model, type, catalog number, size, capacity)
d. Serial Number or other individual permanent identification
e. Country of origin
f. Further description of the machine-based process performed, materials of construction, etc.
g. Auxiliaries or modifications that alter base price (optional accessories)
h. Drive arrangement (i.e., variable belt motor drive, direct coupled, gear drive, etc.)

   i. Prime mover/driver (i.e., electric motor driven, gasoline/diesel engine, etc.)
   j. Control and wiring
   k. Pipe connections, if any
   l. Foundation
   m. Millwright work
   n. Other additional data to aid pricing

Most of the information required are available on the identification plate located on the machinery concerned. This is particularly useful in motors and other items where the size/capacity/power may not be obvious from a simple observation of the item.

Techniques in Estimating the RCN

1. Repricing Technique. The 'Repricing Technique' requires the appraiser to identify properly the items under consideration, and to undertake the critical exercise of establishing the replacement cost of all these items and attachments. This is not difficult in a modern stand-alone machine sold regularly as prices are available (the assessors/appraisers may just contact the manufacturer to obtain the purchase price and installation costs). However, it will not be so simple in the case of imported machinery, customized machines or perhaps older machines where that particular model is no longer available.

The steps required in the Repricing Technique are as follows:

   a. Establish an inventory of the property as of appraisal date
   b. Gather technical specifications of the property items to be re-priced to an extent adequate for complete identification
   c. Compile basic price information or unit prices for each property item from manufacturers, suppliers or dealers
   d. Develop unit prices covering all elements of cost
   e. Apply the unit prices to the item/s that make up the machinery to arrive at an indication of RCN of the particular plant, machinery or equipment.

There can be many inputs required to determine the value of a multi-component production line. The process and time involved in establishing replacement and installation costs can be considerable, particularly in cases where the machinery has been customized, and the suppliers themselves may have difficulty in providing current information. This technique requires a specialized skill, considerable patience, and may be considered impractical for SMV and rating purposes, given the current level of LGU resources.

2. Indexing Technique. The 'Indexing Technique' is based on the concept that the RCN will relate to the original purchase price, plus an allowance for increase in the cost of that item over the period since its manufacture/purchase. This technique assumes that a new item of the particular type under consideration would cost the same as the original, but adjusted for inflation, changes in costs of materials and labour, etc., used in manufacturing.

There are various indices that appraisers can use to determine the RCN. A complication exists when a certain machine has been superseded by a more efficient machine that costs less than the machine which is actually in place. In such cases, the cost of the replacement machine becomes the value for depreciation. This should be reflected in any indexing (if done correctly) as the trend factor will reduce, rather than increase. Prices may not always go up, particularly as when modern technologies and new materials become more readily available.

If the original acquisition costs (Historic Cost) and the date of acquisition are known, Indexing Technique can be used. When using this technique, the information provided by the owner in the Sworn Statement must be complete, and the original acquisition cost must include all direct and indirect costs.

Once the information is complete, including the total original acquisition cost, trending can start. This involves establishing the increase (or decrease) in the total acquisition costs (purchase, delivery, installation etc) for that classification of asset between the original date of acquisition and the date of valuation. The price index is then multiplied by the original acquisition cost to arrive at the RCN. If the machinery is imported, the resulting RCN has to be adjusted for currency fluctuations by dividing the exchange rate at the date of valuation by the exchange rate at the date of acquisition.

    a. <u>**Indexing for Locally Manufactured Machinery**</u>:

EXAMPLE 1

The general revision of real property assessments and plant, machinery and equipment is to be undertaken effective 1 January 2006. The Sworn Statement provided by the owner provides the following information:

A locally produced rice thresher was acquired new in January 1998 and immediately installed by the supplier at a food processing factory for Php10,000, plus Php2,200 for installation fee.

        RCN = Original Cost x Local Index Factor*
        RCN = Php12,200 x 1.138 (Price Index for the period)
        RCN = Php13,884

*www.census,gov.ph/sector/datacpi.html

The machinery depreciates at 5% per year. On the date of valuation, the thresher is eight years old, thus. it depreciated by 40% (8 years x 5% annual depreciation) or to Php5,553. The value of the thresher for real property tax purposes would be:

$$RCNLD = Php13,884 - Php5,553$$
$$= Php8,331$$

b. Indexing for Imported Machinery

Two factors need to be considered when estimating the RCN of imported machinery:

1. Foreign exchange rate at the date of acquisition and foreign exchange rate at the date of valuation, and

2. Change in prices for the same machinery in the country of origin from the date of acquisition to current date.

The foreign exchange rate factor is determined by dividing the exchange rate at the date of valuation by the exchange rate at the date of acquisition. Using this factor alone simply deals with currency variation and assumes that there has been no change in the price of the machinery in the country of origin during the period between date of acquisition and date of valuation. Therefore, acquisition cost must be adjusted by considering the price increase in the country of origin during the period under consideration.

The formula for trending of imported machinery is, as follows:

$$RCN = Acquisition\ Cost \times \frac{Ex\ Rate\ V}{Ex\ Rate\ A} \times Price\ Index\ of\ supplying\ country$$

Where:
Acquisition Cost = Cost of Machinery, Insurance and Freight
Ex Rate V   = Exchange Rate on the Date of Valuation
Ex Rate A   = Exchange Rate on the Date of Acquisition
Price Index   = International Price Index or Trending Factor

The increase in US prices (price index) for the historical classification of machinery could be obtained by referring to the Trending Schedule for the USA (the Kemper International Replacement Value Cost Trend). However, this guide is no longer produced. Fortunately, there are detailed indices available via the internet, particularly from the US Bureau of Labor Statistics Producer Price Index. However, these are US indices, and may not apply directly in the Philippines, given maintenance, environment and economic variances.

The US material is quite specific with thousands of tables available for analysis from various small food item processing machines to power turbines. Two examples are shown below:

Table 63. Producer Price Index Industry Data for Metal Cutting Machine

Series ID: PCU3335123335122
Industry: Metal cutting machine tool manufacturing
Product: Metal grinding, polishing, buffing, honing, & lapping machines, gear-tooth
Base Date: 198306

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1999	172.3	172.3	172.3	172.3	172.3	172.3	172.9	172.9	172.8	172.8	171.5	171.5	172.4
2000	171.5	171.5	171.5	170.8	170.8	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2
2001	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2	171.2
2002	171.2	171.2	172.8	172.8	172.8	172.8	172.8	172.8	172.8	172.8	172.8	172.8	172.5
2003	172.8	172.8	172.8	172.8	173.0	172.1	172.1	172.1	174.8	174.8	174.8	174.8	173.3
2004	174.7	174.6	176.9	179.2	178.0	178.5	178.5	178.5	178.5	178.5	178.5	181.7	178.0
2005	184.7	184.8	183.1	183.1	184.7	185.0	185.0	185.0	187.3	187.4	187.4	187.8	185.5
2006	193.0	193.0	193.0	193.0	193.0	193.0	193.0	193.0	196.7	196.7	196.7	196.7	194.2
2007	198.0	198.0	200.8	200.8	200.8	200.8	200.9	200.9	206.9	212.4	211.8	211.8	203.7
2008	214.9	214.9	214.9	214.9	215.7	217.1	217.1	218.8	218.7	218.8	221.5	221.5	217.4
2009	223.3	223.3	223.3	227.4	227.4	227.4	227.4	227.4	227.4	229.0	229.0	229.0	226.8

Data extracted from: data.bls.gov/cgl-bin/drsv (November 12, 2009 - 10:34:00 PM)

Table 64. Producer Price Index Industry Data for Heating Equipment

Series Id: PCU3334143334141
Industry: Heating equipment, except warm air furnaces
Product: Cast iron heating boilers, radiators, and convectors (except parts)
Base Date: 199906

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
1999						100.0	100.7	101.0	101.1	100.9	100.9	101.0	
2000	101.1	101.0	101.3	101.3	101.5	101.5	101.5	102.2	102.1	102.1	102.1	102.3	101.7
2001	102.1	102.2	102.2	102.1	102.3	102.8	102.8	103.3	103.3	103.3	103.6	103.6	102.8
2002	104.5	104.4	104.4	104.5	104.5	104.6	104.7	105.0	105.3	105.5	105.5	105.8	104.9
2003	107.2	107.2	107.3	107.3	107.4	107.6	107.5	107.6	107.6	107.6	107.7	108.1	107.5
2004	109.2	109.1	109.4	109.5	110.4	112.4	112.7	113.3	114.6	114.6	114.8	114.8	112.1
2005	115.0	118.2	118.1	120.5	120.2	120.6	121.9	122.0	122.0	122.0	122.0	122.4	120.4
2006	122.4	122.4	124.1	124.4	124.4	124.4	124.4	126.4	128.2	128.2	128.2	128.2	125.5
2007	128.2	129.0	130.1	131.2	131.2	131.2	131.2	135.3	135.3	135.3	135.3	135.7	132.4
2008	135.7	135.7	135.7	136.3	137.4	138.9	145.7	145.6	146.8	146.8	146.8	146.8	141.5
2009	146.8	146.8	146.8	146.8	146.8	149.6	150.1	150.1	150.8	150.8	150.8	150.8	148.9

Data extracted from: data.bls.gov/cgl-bin/drsv (November 12, 2009 - 10:39:26 PM)

Similar, although not as detailed as the US material, Production Price Index statistics are available from the UK and many countries. Data from China is not readily available.

EXAMPLE 2

The general revision of real property assessments and plant, machinery and equipment is to be undertaken effective 1 January 2006. The Sworn Statement provided by the owner provides the following information:

In 1998, sets of machinery were imported from the USA and were installed in a factory building. The purchase price indicated on the Sworn Statement was Php8,500,000. Freight and insurance charges were at Php850,000 and local charges for brokerage, arrastre and handling, customs duties, etc., amounted to Php2,000,000.

Cost of machinery = Php8,500,000
Freight, insurance charges = Php850,000
Total Acquisition Cost 1998 (CIF) = Php9,350,000
Exchange rates on the date of acquisition - US $1: Php40.8931
Exchange rates on the date of valuation - US $1: Php52.6171

$$RCN = \text{Acquisition Cost} + \text{Brokerage, Arrastre, etc.,} \times \frac{\underline{\text{Ex Rate V}}}{\text{Ex Rate A}} \times \text{Price Index}$$

RCN = Php11,350,000 x $\frac{\underline{\text{Php52.6171}}}{\text{Php40.8931}}$ x 1.16*

= Php11,350,000 x 1.286699 x 1.16

RCN = Php16,940,676

*www.census.gov.ph/sectordata/datacpi.html

If the acquisition cost shown on the Sworn Statement provided by the owner is in US$ or any other currency, the RCN is estimated by converting the currency cost to Philippine Peso using the exchange rate prevailing at the date of valuation, and then by applying the Price Index for the country concerned to arrive at the equivalent country cost.

For example, the total acquisition cost (cost of machinery plus freight, insurance) with brokerage, arrastre, customs duties, etc. paid locally, is US$200,000 plus US$20,000 freight and insurance.

RCN = {($200,000 + $20,000) x Php52.6171} x $\frac{\underline{\text{Php52.6171}}}{\text{Php40.8931}}$ x 1.16

RCN = Php1,869,284.89

Although it is common for prices to increase during economic hardship or when modern materials or new technologies are used when a certain machinery is manufactured, the price index might fall, in which case the 'new' cost of a machine will be less than the original cost less the depreciation on that original cost. As such, a five- or six-year-old machine cannot have a value greater than a new machine of a similar nature.

Determining the Depreciation Allowance. Once the RCN has been estimated, the next step is to adjust for depreciation. Depreciation is the loss in value from any cause in comparison with a new item or property of similar kind resulting from physical deterioration, and functional and economic obsolescence.

Depreciation can be estimated by using the straight-line method. Total depreciation of the machine is derived by dividing the effective age of the machine by its estimated economic life, then multiplied by the RCN.

The effective age of any property/machine is the age as compared with other properties performing similar functions. It is the age which reflects a true remaining life for the item, considering the typical life expectancy of a machine of its class and usage. It is derived by subtracting the remaining economic life from the total economic life of the item. Economic life is the number of years a machine

is expected to perform its function economically. The remaining economic life represents the unused portion of its economic life, normally estimated with reference to the age of the machine.

The straight-line method of depreciation is represented by the following formula:

$$\text{Depreciation} = \text{RCN} \times \frac{\text{EL - REL}}{\text{EL}}$$

Where:
REL = Remaining Economic Life
EL = Economic Life

The Economic Life for each category of machinery can be estimated by referring to the estimated economic lives for machinery and equipment. This can best be developed from local research, and with guidance from available international publications.

EXAMPLE 3

Using the same information as in Example 2, the machinery has an Economic Life of 20 years, and has been used for eight years as of the date of valuation. The REL is, therefore, 12 years; thus, the depreciated values is as follows:

$$\text{Depreciation} = \text{RCN} \times \frac{\text{EL - REL}}{\text{EL}}$$
$$= \text{Php}13,427,884 \times \frac{20 - 12}{20}$$
$$= \text{Php}13,430,000 \times 0.4$$
$$= \text{Php}5,371,154$$

If the machine is normally expected to have an economic life of less than 20 years, then it must be adjusted to comply with Section 225 of the LGC. For example, a drilling machine might normally have an Economic Life of 10 years. If it was seven years old at the date of valuation, with an REL of three years, it would normally be valued at 30% of RCN. However, for RPT purposes, it will be valued as if it had an Economic Life of 20 years and an Remaining Economic Life of 13 years, that is, it would be valued at 65% of RCN.

Section 225 of the LGC further provides that if a machinery is 'useful' and 'in operation', the remaining (or residual) value shall be fixed at not less than 20% of the original cost or RCN. Therefore, if a machine has an Economic Life of 20 years and is 17 years old, its Remaining Economic Life would be three years and its market value would equate to only 15% of RCN. As this falls below the minimum allowed under the law, the value for RPT purposes will be 20% of RCN.

Private appraisers use an alternate method called the Observed Condition Method (Appendix 6), which requires a degree of expertise, and individual inspection of all machinery to be valued. Although this is not practical, given the scale of the appraisal exercise for property tax purposes, it does give an alternative with respect to certain special cases.

Stage 2 – Verification

Previous discussions have shown that much of the relevant information required for valuation for RPT purposes can be obtained from the Sworn Statement supplied by the owner. However, there is a margin of error on the physical condition of the machinery, which may be different from that indicated on the Sworn Statement. For example, a second-hand machine may be more or less intensive than normal, resulting in a poorer or better condition than the average for its age; thus, the Statement may contain factual errors. Therefore, the information contained in the Sworn Statement should be verified, particularly for larger-scale enterprises with high-value machinery.

In most cases, however, it will be safe to assume that a machinery is in fair average condition for its age and can, therefore, be treated as typical.

Ocular inspection should be conducted prior to valuation. This may be done as follows:

- Discuss with management and accountant or financial manager the Sworn Statement entries, and verify the original acquisition cost, including all direct and indirect costs, the condition of the machine when purchased, whether brand new, reconditioned, secondhand, etc.
- Inspect the machinery to verify physical existence of the property and identify entries, confirm specifications and other accessories, including all main items or production lines, and any scrap or obsolete items.
- Interview the plant and maintenance engineer and machine operators to ascertain the service/ maintenance history, general condition and degree of obsolescence, and expected Remaining Economic Life of the machinery.

Considering the time constraints of assessors/appraisers, an authorized appraisal staff may do the verification instead. Such individual does not need to be a qualified mechanical engineer, although he/she should be knowledgeable and must possess the technical ability to undertake the task proficiently.

The verification aims to check whether the information on the Sworn Statement is complete and whether the Economic Lives and Remaining Economic Lives are realistic, with the assessor having all the information required in order to carry out the valuation.

In case of doubt on the declared market value of machinery indicated on the Sworn Statement of the owner, confirmation may be made by checking with the manufacturer, supplier, dealer or possibly other agencies of the government. Although the information may be available, supply of information may require a formal agreement with these government agencies.

If obtaining data on the actual amounts of direct and indirect costs is not possible, estimation may need to be done.

VALUATION OF INFRASTRUCTURE

Infrastructures such as rail-tracks, wharves, piers, pipelines, etc., should be treated as structures and valued on a depreciated replacement cost basis. Similarly, electric poles, cell sites, and any related building or machine rooms shall be dealt with as structures. Transmission machinery, equipment, satellite dishes, etc., and associated cables are treated as machinery and valued based on Depreciated Replacement Cost. For RPT purposes, the resulting total market value should be apportioned or pro-rated between the local government units they traverse.

GENERAL VALUATION ISSUES

The valuation methodology for plant, machinery and equipment for RPT purposes has been applied inconsistently by assessors, partly due to the varying qualities of data supplied by taxpayers. In some cases, no returns are submitted at all.

Although the basic valuation methodology appears to be sound in principle, a number of issues arise which affect the quality of valuation conclusions, such as:

a. The reliability of data supplied by owners in the Sworn Statements

b. The lack of power to force owners to supply full and reliable data

c. Machinery acquired as second-hand may be shown as 'new' acquisition

d. Difficulty in reconciling multiple entries listed over numerous years, particularly the treatment of maintenance and repair costs, with physical assets on the ground

e. The need for physical inspections to verify data supplied by owners

f. Availability of financial resources and the technical ability of individuals undertaking verification

g. Reliance on a central valuation unit to supply annually approved data schedules to all assessors (e.g., Local Price Index/Trending Factors, Foreign Exchange Rates, International Trending Factors, List of Economic Lives for Various Categories of Machinery, etc)

h. The primary depreciation factor established only considered the age, with no reference to condition (depreciation factor is to be established during the physical inspection which is very subjective)

i. Section 225 of the Local Government Code requires a maximum depreciation of 5%. This may give unrealistic results for assets with short economic lives, which is in direct conflict with the principle of establishing the market value

j. The valuation is based on a 'formula-based approach', with limited 'verification' inspections for the larger manufacturers or enterprises owning a large number of machines; thus, 'valuations' are still likely to be somewhat complex and time-consuming.

k. The interpretation/definition of taxable machinery. As previously discussed, interpreting what constitutes a machine for general use is critical and is subject to numerous court cases and rulings. In addition, excluding those machinery integral to buildings (e.g., lifts and air conditioning) is strongly argued, as these can be captured as part of the market values of the buildings.

l. Machinery no longer being subjected to Real Property Tax in many Western economies, whereas in the Philippines, Real Property Tax on machinery generates significant revenue. Therefore, it is seen as an important, albeit difficult, element to deal with.

m. The Philippine Mechanical Engineering Act of 1998 (Republic Act No. 8495) requires that all appraisals of machinery and equipment should be supervised by and the report signed by a professional mechanical engineer. However, the appraisals being done by assessors for taxation purposes has been allowed under the Local Government Code. The Philippine Valuation Standards state that when the requirements of local legislation, regulations or statutes are in conflict with the Generally Accepted Valuation Principles, the legislation, regulations or statutes are the overriding authority. In any event, resources are generally lacking to undertake physical inspections, to record data, and to carry out Observed Condition Method which is a process unlikely to be cost effective, in the case of small to medium industry. This is the justification for a streamlined formula approach similar to mass appraisal of land or buildings.

ALTERNATIVE VALUATION METHODOLOGY
An Option For The Future

A study has been undertaken to test the most appropriate method to adopt given current conditions in the Philippines. As indicated, a number of issues affecting the quality of valuation conclusions have emerged from the preferred valuation methodology. Of particular concern is the complicated approach of determining depreciation on machinery on a formula basis, with only limited physical verification as to its condition.

Although the Replacement Cost New and Replacement Cost New Less Depreciation approach approaches are considered the most appropriate methods, this Guidebook included an alternative approach, should conditions become more favorable in the future. The alternative method prescribes estimating the market value for RPT purposes based on the book values in the book of accounts of enterprises. This may partially overcome the problems encountered in the current method.

In 2001, the New Government Accounting System Committee was established to formulate and draft the New Government Accounting System (NGAS) that complies with the International Accounting Standards (IAS). The new standards were introduced in 2002 as the Philippine Government Accounting Standards (PGAS). PGAS is based on the International Accounting Standards/International Financial Reporting Standards (IAS/IFRS) and the International Public Sector Accounting Standards (IPSAS), which were modified to adhere to the local laws, rules and regulations.

The modified national accounting policy is important as it requires both the public and private sector to recognize (historic) acquisition cost and annual depreciation as part of their financial reporting.

The NGAS Manual Section 4(o), Volume I further provides guidelines on public sector assets and prescribes the use of straight-line method of depreciation. A residual value equivalent to 10% of the cost shall be set up, and depreciation shall start on the second month after purchase/completion of the property, plant and equipment.

The new accounting policy also recognizes 'impairment', which is the additional loss in value over and above depreciation resulting from age and from the actual condition or use of the asset. Accountants would normally make such adjustments following formal advice from an enterprise's mechanical engineer and management decisions.

As such, if the depreciation rates used in financial reporting are similar to those adopted by valuers/appraisers of plant, machinery and equipment, then the issues of age and condition are already addressed in the 'book value' of the asset.

However, the depreciation for financial reporting is applied to the 'Historic/Acquisition Cost. Therefore, this must be adjusted by using the Price Index for the period between acquisition and valuation (similar to the recommended method discussed previously). If a machinery is imported, an adjustment should also reflect both the Price Index in the country of origin and the difference in the Foreign Exchange Rate for the period between acquisition and valuation (again, similar to the recommended method above).

In summary, although the indexing element remains the same as in the Replacement Cost New/ Direct Replacement Cost method, the index is applied directly to the net book value to provide the market value. This simplifies the process as there is no longer any need to estimate the Remaining Economic Life or to make any further allowance for condition.

VALUATION PROCESS

Stage 1 – Obtain Data from Owner's Sworn Statement and Apply Trending Index

From the information provided by the owner using the Sworn Statement Form, the date of acquisition, age, and the net book value historic cost - or, where revalued, the Fair Value - less 'accounting' depreciation and impairment are known.

a. Indexing for Locally Manufactured Machinery
The list of price changes for the Philippines will be developed based on the preferred methodology. The Price Index can be obtained from the NSO website (www.census.gov.ph/sectordata/datacpi. html.) This will be circulated to all Assessors to form the Authoritative Price Index for Locally Manufactured Machinery. Therefore, the calculation is represented by the following formula:

Formula 1:
RCNLD = RCN - Depreciation

$$= (\text{Original Cost x PI}) - (\text{RCN x } \frac{\text{EL - REL}}{\text{EL}})$$

Where:

RCNLD	- Replacement Cost New Less Depreciation
RCN	- Replacement Cost New
REL	- Remaining Economic Life
EL	- Economic Life
PI	- Price Index

EXAMPLE 1

A general revision of SMV which includes plant machinery and equipment is to be undertaken with an effective date of 1 July 2008. The Sworn Statement provided by the owner gives the following information:

A locally produced rice thresher was acquired new in January 1998 for Php10,000. Its economic life is estimated to be 15 years. Price Index is at 1.138.

To compute for the Replacement Cost New Less Depreciation for 2008 RPT appraisal:

$$\text{RCNLD} = (\text{Php}10,000 \times 1.138) - \left[(\text{Php}10,000 \times 1.138) \times \frac{15 - 5}{15}\right]$$

$$= (\text{Php}11,380) - [\text{Php}11,380 \times 10/15]$$

$$= (\text{Php}11,380) - [\text{Php}11,380 \times 0.667]$$

$$= \text{Php}11,380 - \text{Php}7,590.46$$

$$= \textbf{Php3,789.54}$$

Depreciated Value is Php3,800.00

Note that the maximum depreciation rate prescribed within the Local Government Code prevails. Depreciation calculations for taxation are only relevant when machinery depreciates at a slower rate than 5% per annum.

b. Indexing for Imported Machinery

Similar to the approach described on page 186 for imported machinery, two factors will affect the estimation of the depreciated value RCNLD: (1) the change in foreign exchange rates during the period, and (2) the change in costs or prices in the country of origin during the period

Formula 2:

$$\text{RCNLD} = \text{Original Cost} \times \frac{(\text{Ex Rate V})}{\text{Ex Rate A}} \times \text{International Price Index}$$

Where:

Ex Rate V   = Exchange Rate at Date of Valuation
Ex Rate A   = Exchange Rate at Date of Acquisition
International Price Index = International Price Index or Trending Factor

EXAMPLE 2

A general revision of SMV which includes plant machinery and equipment is to be undertaken with an effective date of January 2006. The Sworn Statement supplied by the owner provides the following information;

In January 1998, several pieces of machinery worth US$200,000 were imported from the USA and were installed in a factory building. This machinery normally has an economic life of 20 years. Freight and insurance charges were US$20,000 and local charges for brokerage, arrastre and handling, custom duties, etc., amounted to Php2,000,000. The total acquisition cost in 1998 was Php10,996,482. The increase in US prices for the classification of machinery can be obtained by referring to the Trending Schedule for the USA (US Bureau of Labour Statistics Producer Price Index).

In computing for the Depreciated Value (RCNLD):

$$RCNLD = (Original\ Cost \times \frac{Ex\ Rate\ V}{Ex\ Rate\ A} \times International\ Price\ Index) - Depreciation$$

RCN = Php10,996,482 x (Php51.314/Php40.8931) x 1.16

= Php10,996,482 x 1.254833 x 1.16

= Php16,006,548.25 or Php16,000,000

The RCN is Php16,000,000. To calculate the RCNLD, we adjust the value (RCN) based on the remaining economic life. Thus,

Depreciation = Php16,000,000 x 12/20 = **Php9,600,000**

RCNLD = Php16,000,000 - Php9,600,000 = Php6,400,000

Table 65 is an example of the Peso/US Dollar Rate from the Assessors' Manual and *Bangko Sentral ng Pilipinas.*

Table 65. Peso per US Dollar Rate* *(from CY 1965 to 2008)*

YEAR	AVERAGE RATE	YEAR	AVERAGE RATE
1965	3.9010	1987	20.5677
1766	3.8955	1988	21.0947
1967	3.1952	1989	21.7367
1968	3.9159	1990	24.3105
1969	3.9292	1991	27.4786
1970	6.0246	1992	25.5125
1971	6.4317	1993	27.1198
1972	6.6748	1994	26.4172
1973	6.7563	1995	25.7144
1974	6.7879	1996	26.2157
1975	7.2479	1997	29.4707
1976	7.4402	1998	40.8931
1977	7.4028	1999	39.0890
1978	7.3658	2000	44.1938
1979	7.3776	2001	50.9927
1980	7.5114	2002	51.6036
1981	7.8957	2003	54.2033
1982	8.5400	2004	56.0400
1983	11.1127	2005	55.0860
1984	16.8987	2006	51.3140
1985	18.6073	2007	46.1480
1986	20.3867	2008	44.4750

* Bankers' Association of the Philippines (BAP) reference rates from 13 December 1984 to 3 August 1992; weighted average rate under the Philippine Dealing System (PDS) starting August 4, 1992. **Source: Reference Exchange Rate Bulletin, Treasury Department, Bangko Sentral ng Pilipinas**

Stage 2 – Verification

Similar to the current method, verification must be done to check if the physical condition of the machinery is the same as that indicated in the Sworn Statement and as reflected in the application of the accounting policy.

EMERGING ISSUES

Although the basic theory behind this alternative valuation methodology appears to be sound, a number of issues emerge which could affect the quality of the valuation conclusions considering the current environment, including those issues highlighted in the current approach. In addition, the following issues are relevant:

a. The selection of the depreciation method and the estimation of the useful life of the assets are matters of judgment. The PGAS, therefore, requires disclosure of the methods adopted and the estimated useful lives or depreciation rates adopted. Similarly, the depreciation allocated over a period of time and the accumulated depreciation at the end of that period must also be disclosed.

b. The rates of depreciation adopted by accountants are not consistent with depreciation rates adopted by industry experts and valuers.

c. Rates of depreciation adopted by accountants are often based on economic lives of significantly less than 20 years. This is inconsistent with Section 225 of the Local Government Code and often less than the rates adopted by industry experts.

ECONOMIC LIVES OF MACHINERIES
Extracted from DOF Department Order No.22-73, June 18,1973

Owners or property administrators may estimate the economic life of a machinery based on their particular operating conditions, experience, and informed judgement as to the technological improvements and economic change. In such cases, the periods of estimated economic life used by owners or property administrators are subject to review by the assessor, who may require such owners or administrators to substantiate the periods used. It must also be predicated on a reasonable expense policy on the cost of repairs and maintenance. The owner's or the property administrator's replacement policy should also be considered.

The estimated economic life of any machinery may include an allowance for normal obsolescence. However, this should not contain any provision for extraordinary obsolescence, such as those occasioned by revolutionary inventions, abnormal growth or development, radical economic changes or other unpredictable factors which may force the machinery to retire or be replaced prior to the end of its normal economic life.

The remaining economic life of a machinery must be determined by examining the actual physical condition, degree of utility and available records of the owners and/or records of the manufacturers, suppliers and /or dealers or government agencies.

In the absence of the authoritative local references, for purposes of uniformity, the Depreciation Rate Tables under Bulletin F of the US Internal Revenue Service may be used as basis for estimating the economic life machinery. Great care and extreme caution should be exercised with regard to Bulletin F. These economic life tables were developed then amended in 1942, then superseded by Revenue Procedure 62-21, 1962-2 C.B. 418, which provides safe harbor useful lives based on industry-specific asset classes for taxpayers that meet the reserve ratio test (a complex provision). As long as the taxpayer can demonstrate that its retirement of asset policies are consistent with the selected class life, the US Internal Revenue Service shall not challenge the useful life. There have been various amendments in more recent years, and extensive fixed tables of depreciation are not used regularly due to individual usage applications of various machinery.

Table 66: Additional Costs in Valuing Imported Machinery

If FOB (Free On Board)* ship or plane i.e., price delivered to a port and loaded on a ship within country of purchase:	If CFR/CNF (Cost and Freight where the buyer is responsible for the purchase and freight door-to door including insurance):

Cost in Foreign Currency:
  X Ocean Freight (10%-20%)
  X Crating/Packing Charges (3%)
  X Marine Insurance (2%)
  X Exchange Rate
	Cost in Foreign Currency
	  X Marine Insurance
	  X Exchange Rate
	--- 	
	Dutiable Value in Peso

Dutiable Value in Peso
 	
  + Bank Charges (1/8 of 1% = 0.00125)
  + Ad Valorem (Tariff Code)
  + Wharfage Due (see Table I)
  + Arrastre Services (see table II)
  + Brokerage Fee
  + Documentary Stamp (constant)
  + Import Processing Fee (IPF) (constant)
	If CIF/ICF (Cost Insurance Freight where the seller provides the freight and insurance to the point of delivery):
	Cost in Foreign Currency X Exchange Rate
	--- 	

Landed Cost + Value Added Tax (10%)	

Total Landed Cost
  + Installation (5%-10%)
  + Foundation (5%)
  + Electricals
  + Piping	

Freight on Board or Free on Board means that the seller pays for transportation of the goods to the port of shipment, plus loading costs. The buyer pays cost of marine freight transport, insurance, unloading, and transportation from the arrival port to the final destination. (source: Incoterms, International Chamber of Commerce)

6

Special Purpose Properties

INTRODUCTION

Appraisers are particularly concerned with the valuation of 'special properties'. By nature, these properties are few and rarely transacted, and have complex and custom-built structures. In instances of sale, the total sale price can include goodwill and some elements of 'going concern' or business value. Moreover, the real estate may be difficult to separate from the other elements.

The Philippine Valuation Standards, in the chapter 'Concepts Fundamental to Generally Accepted Valuation Principles (GAVP)', states that:

> "8.2. *Specialised property is a property that is rarely, if ever, sold in the market except by way of sale of the business or entity of which it is part, due to uniqueness arising from its specialised nature and design, its configuration, size, location, or otherwise. Where there is limited or no directly comparable market information for Valuers to consider, the valuation process may become more complex. However, it is the Valuer's responsibility to develop data and reasoning from the market to support and/or explain the value conclusion. Each of the valuation methods may be applied and all applicable methods should be considered. Where possible the Valuer develops land value, cost, and accumulated depreciation estimates from market information, and explains the basis for the value estimate."*

Special purpose properties have to be assessed for taxation purposes; thus, local government assessors and appraisers cannot avoid dealing with these properties and determining their appropriate values.

Special purpose properties do not lend themselves to mass appraisal and, for the most part, must be valued on an individual property basis that is more in line with normal 'one-off' and specific valuations. Thus, although real property for taxation purposes should be valued based on the SMV (where properly applicable), when the property to be assessed does not fall under any classification in the Schedule or when the value is not fixed, such property shall be valued at its market value independent of the SMV.

With special purpose properties, appraisers/assessors must ensure that only the taxable elements are included in the valuation, and business components or goodwill do not muddle with the valuation exercise. Similarly, the elements of machinery and equipment used within a property must be separated correctly, as the tax levels for these are different from the land and building components.

The underlying concept in determining the value of any form of real estate is market value, and this applies in special purpose properties as well. How, then, can the market value of special purpose properties be determined?

Ideally, valuation seeks to know the market value of a property. However, experience tells us that some types of properties rarely, if ever, sell. When they do, they often include components that are not real property, but elements inextricably linked to the property (e.g., a commercially operated memorial park, which will be discussed later in this chapter). The park may be well-designed and managed, and have high revenues due to location, good management, advertising and other similar factors. In appraising a piece of real estate, the factors for the location and land, other buildings and the design elements should be included, but not the components of management or those associated with advertising campaigns, etc., as these are elements of the business and not of the real estate. These various elements can be hard to separate. However, business values are not part of the LGU assessment process for Real Property Tax, and assessors/appraisers must ensure that only the real estate is valued, and thus, taxed.

The market value of the real estate for special purpose properties is no different from that of any other property's, as set out in the Philippine Valuation Standards:

> *"... the estimated amount for which a property should exchange on the date of valuation between a willing buyer and a willing seller in an arms-length transaction after proper marketing wherein the parties had each acted knowledgeably, prudently, and without compulsion."*

The elements comprising the definition of market value is discussed in the introduction of this Guidebook, which applies initially for special purpose properties.

In the absence of sales evidence and for RPT, the Depreciated Replacement Cost valuation approach (for buildings and related improvements) is commonly used, together with the land value assessed on a market basis, for special purpose properties. This methodology (discussed at length in each of the Residential and Commercial chapters of this Guidebook) must reflect, as much as possible, the actual depreciated value as would be seen in the market, and not simply an arbitrary depreciation rate, often derived from an inappropriate formula.

The depreciated value accounts not only the physical depreciation caused by weather or physical wear and tear due to use. It also considers the economic depreciation, which is a reflection of obsolescence, as well as functional or technical obsolescence that has occurred.

In considering the appraisal problem, it may help to revisit the definition of 'real property', which is the item being appraised.

'Real Property', as earlier discussed, includes all the rights, interests and benefits related to the ownership of real estate. 'Real Estate', on the other hand, is the physical land and all those items attached to the land. Real estate is the physical material of the earth and buildings and can be touched, walked on, lived in, etc.

Appraisal, for purposes of RPT, is the determination of value of the land and improvements (buildings and other structures or works) and does not include the value of licenses, business permits, goodwill or the present value of future operational (i.e., business) profits where the real estate is an integral part of a business operation.

In the case of real property that is part of a total business operation, the valuation of this real property assumes that a permit or business would apply to the site, and would be available to an incoming buyer. However, the buyer must apply and obtain or pay separately for that license or operational capacity. To include the value of a license or some other intangible as part of the property to be valued is to artificially increase the value of the real estate and penalize the owner with an unfairly high tax burden.

The following sections discuss a number of special purpose property types with the corresponding recommended valuation methods. The examples provided are simply worked examples, and the figures used should not be taken as the standard or industry norm. It is the process of deriving and analyzing the values that has to be understood in the examples.

The methodologies set out in this Chapter are all linked to standard valuation concepts and procedures. Generally, what is difficult in valuing special properties is the data gathering, interpretation of results, and the application of results.

This Chapter mostly discusses valuations for RPT. Assessors/Appraisers undertaking valuations for purposes other than RPT should draw their own conclusions whether the methods are suitable for the purpose.

SPECIAL PURPOSE PROPERTIES

GOLF COURSES

The valuation of a golf course is not an everyday event for any assessor/appraiser, and thus, must be handled carefully.

Golf courses and golf clubs rely on their large land areas, substantial improvements, and their buildings in order to function and operate viably. However, golf club viability itself depends largely on the number of club members and/or those additional patrons paying daily playing fees, as well as the operation of facilities and services (e.g., dining rooms, golf cart hire, pro-shop, etc.)

When appraising a golf course, the real property must be separated from the business activities of the club/course management.
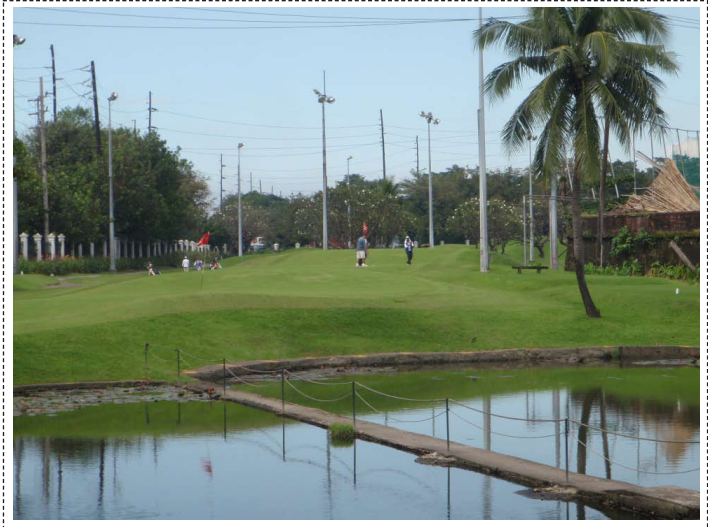
The business of the club includes collection of fees and memberships, profits from a restaurant or dining facility, percentage of fees paid to coaches, sales of sports equipment, hiring of golf carts, etc., together with regular and occasional corporate sponsorship or advertising. All of these are business activities.

Although the land and buildings provide the opportunity to operate the business, the business is treated separately. This separation of business from real estate is no different from the principle of a shopping center that has retail space. As such, the valuation is on the land and buildings, not the profit from selling shirts or multitudes of other items. Sale of goods is the activity conducted in the building, and relates to the business of the various shopkeepers, not the real estate.

The task, thus, of the assessors/appraisers is to determine the land and buildings value. The first response to the conceptual question of 'how much is a golf course really worth' 'What would an informed golf course buyer pay to an informed golf course seller?". It must be envisaged that there is a buyer with the skills and capacity to run a course (and separately the business).

If the golf course value is on the whole operations and estimated from the gross income from all sources, less expenses and capitalized at whatever percentage is deemed appropriate, then the result is the value of the whole operation — which comprises land, buildings, memberships, profits from

restaurant, functions, profit from cart hire fees, etc. To arrive at real estate values, the value of the restaurant business, the golf cart hire business, the pro-shop business, etc., must be deducted. The remaining amount might then be attributed might be attributable to the land and buildings (although it would include an element for the goodwill and the prestige of the club).

It can be argued that goodwill and prestige are attached to the land. However, if the course operation transfers to an equivalent facility nearby, members and services may also relocate. Thus, the goodwill would likewise transfer and re-attach to the new property. The original golf course would just revert into being hectares of landscaped ground and empty buildings. These are what is being valued — the land area, the building and other improvements, and buildings in a suitable state ready to be occupied by a golf club.

Additional caution must be applied where golf courses are endorsed by famous players, or have significant players or persons as members. The presence of high profile members may enhance the status of the club and the course as a whole. Although these persons are members, they are not part of the features of the real estate, but an indication of good management, which is not part of the taxable property.

When it comes to RPT, a valuation based on the process of valuing the property as a whole on a going concern basis, then deducting amounts for business and good will etc., is likely to result in an erroneous land value. In addition, this valuation process is tedious and unreliable, particularly when the relevant information is unlikely to be available and the intangible amount for goodwill is impossible to assess.

> **The best method of valuing a golf course would be through comparable sales basis. However, this is the most unlikely method given the dearth of golf course sales.**

Thus, for the purpose of RPT and to ensure uniformity in valuation and assessment of golf courses, value is best determined by using sales data (probably incorporating an 'extraction process' component) for the land element and by a modified replacement cost method for improvements. This method requires the valuation of the land, acknowledgement of the benefit and value of landscape improvements, and the depreciated replacement cost of the functional buildings.

The value of the specific improvements of fairways, greens, bunkers, etc., should not be ignored for RPT purposes, provided they contribute to value. However, in many cases, these do not contribute to the market value based on highest and best use, as the highest and best use for a property would not be as a golf course. To realize the land value for development purposes, the improvements would be ignored. No developer is going to pay extra for landscaping that is not needed. There is absolutely no doubt that these works/improvements required substantial effort and capital. From a real estate perspective, however, it is unclear whether they actually contribute to the highest and best

use of the land. A number of golf courses may be worth as much (or more) as a raw subdivision land than a golf course. Thus, from an RPT appraisal perspective, the land improvements (i.e., grading, grass planting, greens, etc.) are treated as if they have merged with the land.

The reality with golf courses is that most of them were developed before the land became extremely valuable as a result of urban encroachment over time, or other factors. The golf course site itself and surrounding area were probably agricultural or idle lands. In such cases, the landscaping and other developments would have contributed to the value. When more recent development have overtaken the area surrounding the golf course, the underlying land values would have likely increased to an extent that the golf course is no longer the highest and best use. Thus, the market value will be the underlying value of the land based on an appropriate alternate use.

Land Value. Land value is to be based on the value of large tracts of raw land in the locality. If there are large tracts of comparable land selling in the locality, these can be used as a direct comparison basis to determine the land value. In case there are no large land area sales, then the issue should focus on the amount a buyer is willing to pay for the land.

The answer lies in the alternate or adjoining land use. If the golf course considered is within an agricultural land, then the value would be based on agricultural land values. If the golf course is within a residential property, then the value would be as if the golf course was a large and un-subdivided residential land parcel (i.e., raw land). However, it is unlikely that a parcel of sufficient size would be in the vicinity. As such, the assessor/appraiser has to determine the raw land value using the 'extractive' or hypothetical development method wherein a subdivision is envisaged and the gross selling price, less all costs, is determined to arrive at the raw land value.

Essentially, how much would the land sell if the golf club ceased to exist and no one would be interested in the use of the property as a golf course?

As a golf course would not require prime land, it is appropriate to use land values that are at the lower end of the price range in the locality.

The land occupied by the club rooms, restaurant, etc., should be valued as if a separate parcel and treated as full value for the site. Thus, the 'raw land' concept is applicable to the playing area and associated rough and bush land, but not the car-park, club rooms, etc., and their immediate surroundings.

Landscaping and Related Components. Landscaping, for purposes of improvements on a golf course, includes all bulldozing and grading, fairway works, tee areas, greens, bunkers, water features, tree plantings, irrigation, etc.

The landscaping costs of a golf course are extremely high and largely contribute to the total value for the specific purpose of a golf course. Hence, they are specialized improvements. Determining

the contribution of landscaping to value is difficult, and the ongoing contribution to value relies on extensive routine maintenance and continuous spot rehabilitation of areas that deteriorate due to golf operations or weathering.

For purposes of RPT, and wherever landscaping is considered to have contribution to land value, a suitable model to follow is to establish the up-front replacement cost of the earthworks and landscaping. Depreciate this at 10% of the original or replacement cost per year for eight years,until the minimum value of 20% of Replacement Cost New is reached (note that Year 1 has no depreciation). This is the minimum value that can be attributed to golf course landscape improvements. The 20% minimum value may be arbitrary in some cases, but may be in place to ensure equity among golf courses, and to ensure that all assessors/appraisers from various LGUs treat this type of property in the same manner.

In the year following construction, the landscaping adds 100% of RCN, and 90% for Year 2, Year 3, Year 4, etc. The minimum value (20% of RCN) of landscaping improvements will be achieved after nine full years of operation.

Some aspects of golf course landscaping (such as trees and larger plants) improve with age. However, grassed areas and greens, in particular, need constant attention, repair and sometimes relocation; thus, absorbing a lot of cost. The benefit of major earthworks remains for many years but these 'once off' earthwork costs are reflected in the total landscaping. Thus, for RPT, these are depreciated in the same manner as plantings and related items. In overall terms, and unless maintained to the highest possible standards, landscaping on a golf course is a depreciating asset. The landscaping need not be split into earthworks and horticultural improvements for valuation purposes.

As with all types of real property discussed in this Guidebook, in instances where there is clear and functional evidence contrary to a model or example discussed, an assessor or appraiser is at liberty to adopt the functional procedure.

Buildings. Golf course buildings generally comprise a club house (often with substantial changing rooms and facilities), restaurants, bar, retail golf shop, workshops, and other structures. Some golf courses also include hotel-type operations and other recreational activities. These structural improvements can be valued on their depreciated replacement cost which is determined by the usual method. These buildings contribute

to the function of the club, and have a direct benefit to all players and/or members. In many cases, these facilities are income-generating and the rental for the facilities or profits received go back to the club.

In the circumstances of a restaurant or convention center activity at a golf course, and where the activity is sufficiently distinct from other activities, the value may be computed by capitalization process. In adopting the capitalization process for the value of the commercial elements of the course, it must be remembered that this method includes the value of the land on which these buildings are located; thus, the 'commercial' land on which the restaurant or convention center are located has to be separated during the capitalization exercise as it is not included in the raw land calculation of the playing area.

The appraiser/assessor must also remember that many golf courses are developed as part of a 'country club' type of housing development, and the most expensive lots and houses for sale (if a built development) are those adjoining the actual golf course or overlooking the playing area. The value of these properties is substantially enhanced due to the tall grasses and trees within the golf course. If the golf course was removed and/or redeveloped for housing, the value of the adjoining residential properties would likely plummet.

To a considerable extent, the value of the golf course is reflected in the increase in value (thus higher RPT) of the adjoining properties. If these residences are separate real property units (RPUs), then they must be valued separately and individually in the normal course of the valuation. If they belong to the golf club and are leased out or rented to players or tourists for week-ends, etc., and are not separate RPUs, then their value is incorporated in the overall value of the golf course.

EXAMPLE

A mid-quality golf course comprises a land area of 52 hectares in a developed residential area.The golf playing and landscaping areas occupy 49 hectares, whereas the club house, carpark and other facilities occupy three hectares. The site is fenced with wire mesh and is bordered partly by roads and a stream. Improvements comprise the following:

- 18 hole course with grassed fairways, greens, bunkers and one small lake
- Automatic sprinklers to approach area and greens; fairways are watered by manual operation when necessary
- Practice putting green and informal driving range
- Club house, with change rooms and restaurant
- Retail outlet for golf equipment pro-shop
- Golf cart hire and service bay with snack bar
- Workshop and machinery sheds (old)
- House for the senior greenkeeper
- Car park
- Perimeter fencing

Land Valuation

There are three (3) possible approaches in the valuation of land:

First Approach: Valuation by Hypothetical Development Approach (as a residential subdivision) where all lands are subdivided, the clubhouse demolished and the land absorbed as part of general subdivision area.

Total Land Area	=	52.00	ha
Less: Area for Roads & Open Space (30%)	=	15.60	ha
Net Area	=	36.40	ha

Assuming the lot area is 300m^2, the total number of saleable lots would be:

(36.4 ha. x 10,000m^2/ha)/300m^2	=	1,213.33	
	or	1,213.00	lots

Total projected sales at Php5,000/m^2
(1,213 lots x 300m^2/lot x Php5,000/m^2)   **Php1,819,500,000.00**

The selling period is expected to be three years. The revenue from lot sales needs to be adjusted for the three-year selling period (three-year absorption rate). Lot sales can be expected to occur approximately evenly during each year of the sale period. The anticipated revenue must be adjusted for the deferral time by calculating the present value of sales for each year. Thus, adopt the mid-point of each year for the deferral calculation (approximately half the sales will occur before the mid-point, and half after the mid-point in each year). Sales shall commence soon after purchase by the developer, and some parcels are bought off the plan.

To compute the Capitalization Rate (bank's lending interest of 15% including owner's equity or bridge financing at 24%):

Bank's Interest (70% x 15%)   0.105
Equity (30% x 24%)   <u>0.072</u>
Capitalization Rate   0.177 or 17.70% or 18.00%

Year	Factors	Present Value (Php)
1	Expected annual sales = Php1,819,500,000/3 = Php606,500,000; Deferred six months at 18%pa = PV of Php606,500,000/$(1.18\%)^{0.5}$	**558,328,505.76**
2	Expected annual sales =Php606,500,000; Deferred $1\frac{1}{2}$ years at 18%pa = PV of Php606,500,000/$(1.18\%)^{1.5}$	**473,159,750.64**
3	Expected annual sales =Php606,500,000; Deferred $2\frac{1}{2}$ years at 18%pa = PV of Php606,500,000/$(1.18\%)^{2.5}$	**400,982,839.53**
Present Value of Total Sales		**1,432,471,095.93**
Less	Allowance for developer's profit and risk of undertaking this development equals 20% (Php1,432,471,095.93/1.20 x 0.2) **Note:** A developer would normally expect profits based on a percentage of total costs.	238,745,182.65
	Sub-total	**1,193,725,913.28**
Less:	Expected development costs: design, fees, construction (over 1 year) at Php1,000/m² (Based on developers' (experience) estimate); Interest on Development Costs (six months at 15% pa. interest)	
	1,213 lots at 300m²/lot x Php1,000/m²	363,900,000.00
	(Add: 15% Interest)	27,292,500.00
	Sub-total	**391,192,500.00**
	*(**Note:** Development costs spread across a whole year; Interest calculation based on borrowings and repayment over one year; Average debt would be the full amount for six months; Income from early sales would pay some development costs but developer would shoulder some borrowings)*	
Balance Available (for land purchase & interest on land)		**802,533,413.27**
	*(**Note:** Land interest calculated on the basis of paying all construction costs first, then land and interest costs; Sales income available for land payment after construction costs met; Payment of construction cost and interest will take 0.65/year. (Php391,192,500.00/606,500,000 = 0.645)*	
To compute for present value of the land		
	Land Interest = 1 + {(15% p.a. x 0.65) + [15% p.a. x (2.35 years/2)]}	1.2738
Therefore, the present value of land is:		
	(Php802,533,413.27/1.2738)	**630,030,941.49**
	Rounded-off	**630,031,000.00**

Second Approach: Valuation by Hypothetical Development Approach (as a residential subdivision) where the clubhouse is retained but would not be taxable unless used for non-residential and commercial purposes. The lot price is marginally higher due to the presence of the golf clubhouse and facilities being retained for residential use.

Total area of 52 hectares, less three hectares incorporated into subdivision design for clubhouse use.

Total Land Area	=	49.00 ha.
Less: Area for Roads & Open Space (30%)		14.70 ha.
Net Area	=	34.30 ha.

Assuming the lot area is 300m^2, the total number of saleable lots would be:
(34.3 ha. x 10,000m^2/ha./300m^2)   1,143.33
      or   1,143.00   lots

Total projected sales at Php5,250/m^2
1,143 lots at 300m^2/lot x Php5,250/m^2 =   **Php1,800,225,000.00**

The selling period is expected to be three years. The revenue from lot sales needs to be adjusted for the three-year selling period (three-year absorption rate). Lot sales can be expected to occur approximately evenly during each year of the period of sale. The anticipated revenue must be adjusted for the deferral time by calculating the present value of sales for each year. Thus, adopt the mid-point of each year for the deferral calculation (approximately half the sales will occur before the mid-point, and half after the mid-point in each year). Sales shall commence soon after purchase by developer, and some parcels are bought off the plan.

To compute the Capitalization Rate (bank's lending interest of 15% including owner's equity or bridge financing at 24%):

Bank's Interest (70% x 15%)   0.105
Equity (30% x 24%)   0.072
Capitalization Rate   0.177 or 17.70% or 18.00%

Year	Factors	Present Value (PV)
1	Expected annual sales = Php1,800,225,000/3 = Php600,075,000 Deferred six months at 18%pa = PV of Php600,075,000/(1.18%)$^{0.5}$	552,413,813.84
2	Expected annual sales = Php600,075,000; Deferred 1 1/2 years at 18%pa = PV of Php600,075,000/(1.18%)$^{1.5}$	468,147,299.86
3	Expected annual sales = Php600,075,000; Deferred 2 1/2 years at 18%pa = PV of Php600,075,000/(1.18%)$^{2.5}$	396,734,999.88
Present Value of Total Sales		**1,417,296,113.58**

Year	Factors	Present Value (PV)
Less	Allowance for developers profit and risk of undertaking this development equals 20% (Php1,417,296,113.58/1.20 x 0.2) Note: A developer would normally expect profits based on a percentage of total costs.	236,216,018.93
	Sub-total	**1,181,080,094.65**
Less:	Expected development costs: design, fees, construction (over one year); at P1,000/m² (Based on developers' (experience) estimate); Interest on Development Costs (six months at 15% pa. interest)	
	1,143 lots at 300m²/lot x Php1,000/m²	342,900,000.00
	(Add: 15% Interest)	25,717,500.00
	Sub-total	**368,617,500.00**
	*(**Note:** Development costs spread across a whole year. Interest calculation based on borrowings and repayment over one year; Average debt would be the full amount for six months. Income from early sales would pay some development costs however developer would shoulder some borrowings)*	
Balance Available (for land purchase & interest on land)		**812,462,594.65**
	(Note: Land interest calculated on the basis of paying all construction costs first, then land and interest costs. Sales income available for land payment after construction costs met. Payment of construction cost and interest will take 0.61/year (Php368,617,500.00/600,075,000 = 0.61)	
To compute for present value of the land		
	Land Interest = 1 + {(15% p.a. x 0.61) + {[15% p.a. x (2.39 years/2)]}	1.2708
Therefore, the present value of land is:		
	(Php812,462,594.65/1.2708)	**639,331,597.93**
	Rounded-off	**639,332,000.00**

The subdivision land reflects the benefit of the clubhouse. In this example, the clubhouse facility increased the overall value of the property. The benefit of the clubhouse lies on the increased price of the land that was subdivided.

The value of the 'whole site' must include the clubhouse land parcel (valued separately) in addition to the subdividable land value of Php639,332,000. 'Double Taxation' due to overvaluation must be avoided.

If the clubhouse area indicates an additional 'commercial benefit' to the subdivision association/developer, then it would be included for RPT based on the land value in addition to the buildings. Take away the road or clubhouse and the value drops. If the clubhouse and surroundings are taxed and the benefit (increase in value) to the individual lots is also

taxed, then this can be considered as double taxation. This is not an appraisal issue but a tax policy issue for the LGU. If it is a common property, which provides a taxable benefit to the adjoining sites, the clubhouse (if owned by the developer or jointly by the subdivision owners) may not be taxable. It is no different from the road that enhances the value of the properties within the subdivision.

The separate value of the three-hectare clubhouse portion can be determined by assessing its value as a separate site, plus the value added by the retained improvements.

Land Value
3Ha. at Php15,000,000/ha (based on sales analysis)   **Php45,000,000**

**Table 67. Summary of Total Value of Land
and Improvements for Golf Course**

Value of Buildings (constructed 15 years ago) by Depreciated Replacement Cost *(In Php)*	
1. Clubhouse (600 x Php12,000 x 70%) at Php12,000 RCN, 30% depreciation	5,040,000.00
2. Pro-shop (150 x Php3000 x 60% at Php3,000 RCN, 40% depreciation	270,000.00
3. Workshop (lumpsum)	300,000.00
4. Staffhouse (75 x Php7000 x 94%) at Php7,000 RCN, 6% depreciation	493,500.00
5. Carpark (lumpsum)	2,000,000.00
6. Perimeter fence (lumpsum)	700,000.00
Sub-total	**8,803,500.00**
Total Value of the Land and Improvements	**693,135,500.00**
	Or 693,136,000.00

Note: Only where the golf course is in the Highest and Best Use (HABU) should the value of landscaping be included in an LGU appraisal for RPT. In many cases, HABU will be the alternate use.

When the golf course is the HABU, the value of the land should be calculated on the value of raw low-grade land in the locality. This is the type of land that a golf club would buy in its search to purchase 52 hectares in some location. A golf club would rarely, if ever, have the resources to buy subdivision land at subdivision prices, then spend many millions on development. Under this assumption, many golf courses in urban areas are valued on an alternate use basis as land values decline when moving away from higher priced areas, the likelihood of a golf course becoming the highest and best use will increase. In a semi-

agricultural area on the fringe of a city, a golf course is likely to be the highest and best use and would accordingly be valued based on local land values for large parcels, plus landscaping.

Third Approach: In the case of a golf course of the type described earlier being the highest and best use, the valuation would be:

Land: 52Ha. at Php4,000,000/ha.   = Php208,000,000
(Based on sales of large land parcels in the locality)
Landscaping at Php25,000,000 x 18 holes x *20%   =   Php90,000,000
*(80% depreciated)

Total land and merged landscaping component for RPT   = Php298,000,000

Table 68. Summary of Overall Value of Golf Course

Value of Buildings (constructed 15 years ago) by Depreciated Replacement Cost *(In Php)*	
1. Clubhouse (600 x Php12,000 x 70%) at Php12,000 RCN, 30% depreciation	5,040,000.00
2. Pro-shop (150 x Php3000 x 60% at Php3,000 RCN, 40% depreciation	270,000.00
3. Workshop (lumpsum)	300,000.00
4. Staffhouse (75 x Php7000 x 94%) at Php7,000 RCN, 6% depreciation	493,500.00
5. Carpark (lumpsum)	2,000,000.00
6. Perimeter fence (lumpsum)	700,000.00
Total Improvements Component for RPT	**8,803,500.00**
Overall Value of the Golf Course	**306,803,500.00**
	Or 306,804,000.00

Buildings/specific improvements:

a. Club house is 600m² and includes the locker rooms and restaurant. Replacement cost (new) would be Php12,000/m². These buildings are 15 years old but are very well maintained. Depreciated by 30%. Value is 600m² x Php12,000 x 0.7 = Php5M.

b. Pro-shop, snack bar and cart shed share the same building. Very neat 15-year-old building of basic concrete and timber construction. 150 m² at replacement cost of Php3,000/m². Depreciated by 40%. Value is 150m² x 3,000 x 0.6 = Php270,000.

c. Workshop and machinery shed is 350m². Includes ground staff change rooms. Old but functional. Nominal value of Php300,000.

d. Greenkeeper's house. Good Type III & IV construction. Only three years old. Area of 76 m². Replacement cost is Php7,000/m². Depreciated by 6%. Value is 75m x Php7,000 x 0.94 = Php493,500.

e. Carpark, footpath and entrance gates and car-park fencing. Part concrete and part gravel car park. Good condition. Value of replacement cost is Php2M.

f. Perimeter fencing is deemed to have a value (based on depreciated replacement cost) of Php700,000.

The above details show the process of determining value. Individual golf courses will have their own features or improvements, advantages and disadvantages that need to be taken into account.

Reminder: The aim of this model is to standardize the methodology of golf course valuations for taxation purposes, and to reduce the chance of inappropriate levels of RPT being levied due to the inclusion of the business element of a golf course. Adopting a set model also ensures that golf courses (where taxable) contribute to their respective LGUs in a uniform manner.

MEMORIAL PARKS AND CEMETERIES

Most, if not all, of the value of memorial parks and cemeteries rests on their capacity to sell plots in the future. The greater the number of plots available, the greater the value of the cemetery will be. However, individual properties, cemeteries and the like are diminishing assets. The greatest value is the day these cemeteries open, although they drop in value (in real terms) in time due to the reducing plot space, consequently reducing future income.

Cemeteries are unusual as it follows the reverse of the normal economic model. Most businesses spend money to produce a product and, once produced (and sold), the producer would normally have little to do with the buyer after the transaction. In the case of cemeteries, the product is the plot which is sold to the customer usually on installment basis. The supplier agrees to provide the product (a plot) and often will be required to maintain this for some years. A number of memorial parks/cemeteries will charge an annual maintenance fee and the up-front plot payment.

In other words, a business normally does the work required and gets paid. In the cemetery business, the business gets paid, and to some extent, does the work.

Before undertaking a valuation of a cemetery, the appraiser must know of the features of the cemetery and the real estate-based cash flow. The nature of the cemetery operation may also influence the valuation process.

Newly opened cemeteries with no trading history can be valued simply based on raw land value plus development costs, plus an allowance for developers profit (profit and risk allowance for the initiative and entrepreneurship in developing the property). This does not necessarily reflect the true 'market value' of the cemetery if it was put on the market for sale. The market might have different views of the property or there may be no sales evidence and absorption rates available. Still, it is the best option for the appraiser. One of the first elements to determine is the nature of the cemetery itself; whether it is a traditional monument and gravestone type cemetery, a lawn cemetery or more of a memorial park with areas of lawn, trees, extensive flower beds and architectural features. The nature of the park will have an influence on the number of plots or plaque spaces that are available for sale.

Some parks have columbarium and crematorium facilities that influence value and marketability of the cemetery and memorial park. For RPT purposes, and if taxable, these buildings would be valued on depreciated replacement cost (DRC) basis.

The main activities in cemeteries and memorial parks properties comprise: (1) the sale of plots for immediate or future use and (2) the maintenance of existing plots. Chapels for funeral or memorial services is another element in cemetery operation.

The significant element in the value of a cemetery is the value of the land for the plots. Plots sell for substantial amounts of money, and it is this cash flow which determines the value of the land. In some circumstances, plots sold may provide for up to three interments, which may influence the selling price of the plots. Plots that have been sold are exempt from RPT.

The value of land can be determined by estimating the present value of the annual net cash flow from plot sales over the future life of the park. This present value equals the value of the unoccupied or unsold land. Every year, before tax notices are issued, proprietors of commercial cemeteries

and parks should provide the assessor with a record of plots sold to inform the assessor of the remaining area subject to RPT for the forthcoming year. The inventory of sold lots becomes part of the exempted area.

In addition, the income from all kinds of maintenance for those areas and plots already sold should be considered as a value component. In many cases, any maintenance fund will approximately equal the cost of maintenance; thus, there is little or no element of this fund that can be attributed to 'rent' or use of the existing plots. On this basis, the occupied areas of the park can be assumed to have no income of substance and no value (thus, they have no marketable value for RPT purpose).

The simplest and most reliable method of determining the value of a cemetery, memorial park or any similar property is by <u>direct comparison on land and buildings basis</u>. This method considers the available area for future use, plus the added value of any building. Buildings may include an office area or marketing component set aside for commercial use or business activity, although buildings used exclusively for religious purposes/worship are not taxable.

The direct comparison for land and DRC for buildings can be used when it is considered that the park has a life long enough to recoup the remaining value of the buildings. When all the plots have been sold out, the cemetery would still operate due to the obligation to maintain the park and because of the annual revenues coming from the maintenance fees previously paid, or paid annually by families for existing occupied plots. Unfortunately, some parks cease operating when sold out, with the relatives of the deceased left to maintain their respective plots.

The value of a fully occupied park is marginal. For RPT purposes, it can be based on either the capitalization of the net profit from maintenance or the directly comparable value of fully occupied parks (if any) which have been sold. In either case, it is unlikely that there would be reliable evidence; thus, for practical RPT purposes, the value could be set at zero. A zero value reflects the lack of income, the cost of maintenance and the plight of the land due to many bodies buried on the site (i.e., little opportunity for an alternate use).

To calculate the value of the cemetery based on the remaining unoccupied land principle requires determining the number of plots that can be sold over its future life. This is calculated by:

a. <u>Establishing the usable area of the site.</u> This is the unoccupied area of the park, less any portion that cannot be used for burials (e.g., swampy areas) and multiplied by the plot to land efficiency ratio. Park efficiency will vary, with smaller parks and cemeteries being less efficient as it needs to have certain fixed elements such as a car park, comfort rooms, chapel, and offices. A larger park still needs these facilities but it is likely the facilities would occupy a lesser portion of the site.

The value added by chapels or buildings can be calculated by the DRC method. However, chapels themselves and any associated buildings are used for worship/religious purposes and would not be taxable in any case.

The plot to land efficiency ratio will also vary according to the design and management perceptions on how to best maximize the income from plot areas (many small plots or maybe slightly larger plots or more public space at a greater price). An efficient park should have around 65% to 75% efficiency ratio. However, the unused plot capacity should be considered in line with the existing operation, unless the use of the land is so inefficient that space is blatantly wasted. Thus, the assessor/appraiser is free to adjust the plot ratio to be more in line with the standard practice.

Thus, a site a with a usable area of four hectares with an efficiency ratio of 75% would have a net burial site area of three hectares (4 x 0.75).

b. <u>Divide the usable area by the typical burial plot size to arrive at the number of plots.</u> Assume three hectares (30,000m²) with a plot size of 1.0m x 2.5m = 2.5m². Thus, total plot available is 12,000 plots.

c. <u>Determine the active life of the cemetery.</u> Considering the absorption rate of plots, the active life of the cemetery will depend on the number of available plots and their take-up rates. If the typical take-up rate is 750 plots a year, the cemetery will have a life of 16 years. In this example, assume that plots are selling for Php80,000 each. This entitles the deceased to rest in peace forever, and thus, the land shall not be available for any other user. Of the money received for any plot, a portion is set aside for general maintenance of the cemetery, although most private cemeteries and parks also charge the families an annual maintenance fee.

d. <u>Provide allowances.</u> Having established the gross income for plot sales, the appraiser must make an allowance for any commissions, allowances, advertising or other related expenses associated with the sales. Assume, in this case, that these expenses cost Php17,500 per plot. Hence, the cemetery management receives a net amount of Php62,500 per plot. Yearly sales, therefore, show an annual income of Php46,875,000 (750 plots x Php62,500).

e. <u>Deduct from the established amount the factor for profit to the owner or management and their own costs and skills in maintaining the park.</u> This is no different from allowing a management in managing and making a profit on its shopping center. In this example, assume management and owner's profit to be 40%. The Php46,875,000 becomes Php28,125,000 or the annual net a person would be expecting to receive if they purchased a memorial park property, and leased out the park to a park operator. The return for the land is Php28,125,000.

f. <u>Income must be added to any additional real estate based revenue for the park.</u> This may include rental of chapel facilities or any other similar income source. Exclusion of items such as actual sales of plaques should be handled carefully; this is a feature of the business activity and not the real estate. In this case, consider that there is no other income of substance, and that the annual maintenance fees payable by plot owners can maintain the park in the future. (Note that some parks hold pre-sold plot money in trust, pending the need for the plot. In addition, some parks may set aside a portion of the plot sales revenue for future maintenance of the park as a whole. For RPT purposes, the allocation of funds within the management operation of the park is disregarded, and the value of the park is considered to be the value of unused plot spaces. Pre-sold plots are considered for RPT as vacant, as the amount paid for the plot should be held in trust by the management, pending occupation of the plot.)

g. Given that the value of the park will diminish during the course of its life, it is inappropriate to capitalize the revenue (as capitalization assumes that the property will generate an income in perpetuity or, if not in perpetuity, there will be an end value that has a strong relationship to the former annual earning capacity of the property). The annual sales must, therefore, be discounted by calculating the 'present value of the annual cash flow'. This 'present value' is the amount a prudent buyer would pay for a park/cemetery which can be considered to be the value of the park.

The discount rate will depend on the returns to capital that park owners are receiving, and this can only be determined through interview with park owners. As the property has diminishing value, park owners would likely require a higher return than what a normal property would yield. For this exercise, a 15% return is deemed appropriate.

The value of the property is, therefore, the present value of Php28,125,000 per year at 15% for 16 years. Thus, the value of land is considered to be Php167,462,000 or Php167M. To this value, add the depreciated replacement cost of buildings that were taxable as a separate RPU.

Caution: When determining the expected absorption rate of plots, the assessor/appraiser should check for any relevant changes in the locality (e.g., mortality rate in the area, presence of existing competition, likelihood of new competition from construction of an additional memorial park within the vicinity). If competition is stable, tno new cemeteries are being developed, and the population demographics are expected to remain consistent, then the absorption rate of 750 plots a year would be likely. If the population changes (i.e., older people leave the area), the absorption rate might be less, and the annual plot sales and life of the cemetery would have to be altered.

EXAMPLE

Total Land Area = 4 hectares = (4Ha. at 10,000m²/ha) = 40,000.00m²

1. Compute for the Saleable plots

A. Multiply the total area by the efficiency ratio

(40,000m² x 75%) = 30,000.00m²

B. Divide the net area by the typical burial size plot (1m x 2.5m) or 2.5m²

(30,000m²/2.5m²) = 12,000 plots

C. Consider the absorption (take-up) rate of the plots. The active life of the cemetery will depend on the number of available plots and the take-up rate. If the typical take-up rate is 750 plots a year, the cemetery will have a life of 16 years.

(12,000 plots/750 plots/year) = 16 years

2. Compute for Annual Income (based on sales of the plots)

A. Assume the plots are selling for Php80,000 each, the gross income is

(12,000 plots at Php80,000/plot) = Php960,000,000

B. Deduct expenses such as commissions, allowances, advertising or sales

Assume: Php17,500/plot (12,000plots at Php17,500/plot) = Php210,000,000

Net Income = Php750,000,000

Divide the Net Income by the absorption rate of 16 years

(Php750,000,000/16years) = Php46,875,000

C. Deduct Mark-Up (40%) Php18,750,000

D. Therefore, Net Annual Sales (Income) = Php28,125,000

3. Compute the Present Value using the formula

$$PV = \Sigma \ \frac{FV1}{(1+r)^1} + \frac{FV2}{(1+r)^2} + ...+ \frac{FVn}{(1+r)^n}$$

A. Apply a capitalization rate. As the property has a diminishing value, investors would likely require a higher return than normal. Assuming the appropriate rate is 15%, the present value is computed as follows:

Table 69. Sample Computation Guide

Year	Annual Sales (Php)	Discount Factor			Present Value (Php)
1	28,125,000	$1/(1+.15)^1$	=	0.869565	24,456,521.74
2	28,125,000	$1/(1+.15)^2$	=	0.756144	21,266,540.64
3	28,125,000	$1/(1+.15)^3$	=	0.657516	18,492,644.04
4	28,125,000	$1/(1+.15)^4$	=	0.571753	16,080,560.03
5	28,125,000	$1/(1+.15)^5$	=	0.497177	13,983,095.68
6	28,125,000	$1/(1+.15)^6$	=	0.432328	12,159,213.64
7	28,125,000	$1/(1+.15)^7$	=	0.375937	10,573,229.25
8	28,125,000	$1/(1+.15)^8$	=	0.326902	9,194,112.39
9	28,125,000	$1/(1+.15)^9$	=	0.284262	7,994,880.34
10	28,125,000	$1/(1+.15)^{10}$	=	0.247185	6,952,069.86
11	28,125,000	$1/(1+.15)^{11}$	=	0.214943	6,045,278.14
12	28,125,000	$1/(1+.15)^{12}$	=	0.186907	5,256,763.60
13	28,125,000	$1/(1+.15)^{13}$	=	0.162528	4,571,098.78
14	28,125,000	$1/(1+.15)^{14}$	=	0.141329	3,974,868.51
15	28,125,000	$1/(1+.15)^{15}$	=	0.122894	3,456,407.40
16	28,125,000	$1/(1+.15)^{16}$	=	0.106865	3,005,571.65
					Php 167,462,855.67

Therefore, Present Value at a discount rate of 15% for 16 years is Php167,462,855.67.

Short Method:

$$PV = A \times \frac{(1 + i)^n - 1}{i(1 + i)^n}$$

Where:
PV - Present Value
A - Annual Income
i - Interest Rate
n - number of years

Solution:

$$= Php28{,}125{,}000 \times \frac{(1 + 0.15)^{16} - 1}{0.15 \times (1 + 0.15)^{16}}$$

$$= Php28{,}125{,}000.00 \times \frac{8.357620874}{1.403643131}$$

$$= \textbf{Php167, 462, 855.68}$$

The absorption rate for plots has a major input to value. In the example above, if mortality rate increased, the absorption rate of plots would rise to 1,000 per year and the life of the park would drop to 12 years. This would bring forward the cash flow to Php338,788,687 or Php340 Million (1,000 per annum x Php62,500 (net plot value received) for 12 years at 15%).

If plot sales slowed to 500 per year, the life of the park would be 24 years and the calculation would be Php202 Million (500 plots x Php62,500 each for 24 years at 15%).

The discount (interest) rate for fast sales might reduce a little due to less risks, whereas the discount for longer selling plots might accordingly increase; thus, reflecting the risk and uncertainty which would further alter the results.

An alternate method, if necessary, is to determine the land value by the hypothetical development process or by adopting information directly from sales of large areas of land nearby. If this comparable sales basis is used, the advantage or detriment (depending on the buyer's perspective) of the subject remaining land must be adjusted carefully, being a cemetery or at least adjoining a cemetery.

Because cemeteries/memorial parks have very special uses, the potential to derive income from the land is substantial. Thus, a cemetery or a memorial parkland is likely to have a much higher value than an ordinary comparable land nearby. Sales of vacant land in the locality will not reflect the advantages of the zoning or potential use.

HOSPITALS

As with other special purpose properties, determining the value of a hospital is a matter of considering the real estate component as separate from the business of the hospital. In the case of a hospital, this is less complex than other special purpose properties. However, it still requires considerable care and skill.

A hospital property is best valued by direct comparison if evidence is available, or by DRC if sales comparison is not possible. It might be possible to value a hospital based on net returns from the real estate, then capitalize on the return. However, calculating net returns will usually require separating the business of the hospital from the income directly attributable to the physical real estate, and then adopting an appropriate capitalization rate. This information is scarce, if not non-existent, to the extent that an investment basis calculation for RPT purposes is too unrealistic to contemplate.

The direct comparison method requires examining hospitals with similar age and capacity. Buyers and sellers of hospitals are interested in the capacity of hospitals to generate income from medical procedures and revenue-paying patients. These buyers and sellers will first look at the bed capacity of the hospital and the facilities for minor operations and treatments that are performed on patients, as well as for major operations. Hospital buyers consider the ratio between operating rooms and surgical

capacity in proportion to the number of recuperating patients that can be accommodated in wards, as well as the potential to lease out parts of the hospital to doctors/clinicians for consultation.

Ratios between bed and operating room spaces will depend on the nature of the hospital. Hospitals that specialize in complex operations and procedures will require less general bed space than hospitals dealing with less complex procedures. Complex operations have less number of patients in the operating rooms; thus, less demand for beds during the recovery time (as there are fewer people recovering at any point, and individual patients are occupying the bed for a longer period). For example, a heart surgery procedure would require using an operating room for 8-12 hours (hence, a maximum of two patients a day) and perhaps a few days in an intensive care/recovery ward before moving to a less specialized ward and therapy area. On the other hand, a general surgery may have six or eight patients pass through an operating room within a 24-hour period wherein each patient may only require two or three days recovery in a general surgical ward.

Many hospitals conduct outpatient surgery wherein patients only stay in the hospital for a few hours after a procedure. In such cases, the ratio between operating rooms and beds (for a few hours short term rest and recovery) changes again.

Similarly, a more general hospital will have more beds than rooms due to the large number of patients (e.g., those suffering from disease and needing supervision of medicines and perhaps various therapies) requiring attention (mostly in medical wards and not in operating rooms or surgical wards). The scene may change again where a city hospital, for instance, may cater more for midwifery cases.

Large hospitals have different wings or areas available for different purposes, and may well accommodate all the issues mentioned above, and others as well.

In the case of general hospitals, on a direct comparison basis, the unit of comparison is considered to be beds rather than square meters, given that an efficient and well designed hospital will accommodate more beds than an inefficient hospital. Thus, an efficiently designed hospital may have 20% more bed space (thus, 20% more business) than an inefficient one of the same size. Quite clearly, the value of these two hospitals will be different, and this would not be reflected on a per square meters basis. In fact, a smaller hospital may have higher value as it would cost less to maintain (i.e., lower electricity and other utility costs) than a bigger one.

On the other hand, a large hospital may be altered or renovated in some way to make it more efficient, and to accommodate more beds.

For RPT purposes, the value of a hospital would be based on average management. The particular advantages or disadvantages of any individual or hospital specific management would not be considered.

Using the direct comparison method for hospitals can be complex, whereas attempting a Real Estate Capitalization based on rental can be unpredictable. Thus, the best method to determine the value of a hospital for RPT purposes is the DRC method.

The DRC method follows the usual pattern of first assembling the value of the land based on comparable sales (or by whatever method is most appropriate) then determining the value of the buildings less depreciation.

Many hospitals are well-maintained and parts are usually renovated or upgraded to keep a good public image (thus, attract patients). Hence, hospital buildings will have less depreciation rate than other structures with similar construction type.

When determining the replacement cost of a hospital structure, the special built-in items within the building construction must be considered. Such items include ducts and pipes for oxygen supply or suction, additional wiring for call bells and alarms, and electrical supply cabling for surgical equipment. These built-in elements form part of the building. They are installed during construction, are built-in on walls, floors and ceilings, and remain intact for many years. They are part of the real estate in the same manner as normal sewage pipes, water pipes, and storm water drains.

These items are not considered as machinery or equipment, although the pumps and other paraphernalia connected to the pipes may be considered as equipment. The Chapter on machinery and equipment and the Local Government Code (and other interpretations) can be referred to to ensure that items, such as pumps, are taxable and not subject to Article 290 (o) of the Implementing Rules and Regulations of the Local Government Code of 1991.

Cabling that runs within ceiling spaces or within post-construction fitted conduits or simply dangled-down wall cavities is not considered as part of the real estate (e.g., control cables connecting a large X-Ray machine to the operator panel in an adjoining room). These cables may simply pass through a wall, be set out along the edge of the floor, or be very much part of the X-Ray machine, which would normally be considered machinery and equipment.

Conversely, hospital beds should be disregarded as part of the real estate. Beds are not real property since they are not attached to the land, but are sufficiently portable to be wheeled around the building, and can be removed without affecting the nature of the property itself (although would affect the

activity conducted in the building). Beds, in relation to a hospital, are different from display cases or movable racks in a retail outlet. They are essential to the business, but not to the building. Beds are neither building components nor machinery, but essentially they are furniture. They should not be included in the valuation exercise. However, for RPT purposes, electronic beds/specialized beds together with capital equipment such as X-Rays, computed axial tomography (CT) scans, water pumps, tanks, air conditioner, generator, etc., are taxable as machinery.

Thus, for RPT purposes, the DRC method is considered as the most appropriate valuation approach to determine value. The construction costs themselves will vary depending on the size and nature of the hospital, and this determination of construction cost and depreciation is undertaken in the same manner as for any commercial building.

EXAMPLE:

Description: Five-year-old hospital on a 5,000m^2 land

Buildings: Six-storey hospital building, well designed Class V construction. Building area on each level is 3,000m^2 and comprises five levels of general wards and administration area, plus one floor (level 6) dedicated to surgery, operating rooms and intensive care purposes. Although level six has a different design as the other levels, the construction cost is considered uniform. There is a small outpatient clinic and pharmacy area of 340m^2, located in a separate single-storey structure at the front of the main building. Equipment are mostly specialized requirements for surgery and intensive care and are not included in the building design.

The paved parking area and ambulance entry with canopy are separate from the building.

Land Value: Based on commercial values in the locality and in accordance with the SMV: 5,000m^2 at Php10,000/m^2 = Php50 Million**.**

Building Value: Based on construction cost less depreciation (as there are no sales of hospitals to provide market evidence), the following table may serve as guide:

Table 70. Sample Hospital Component

Compo-nent	Area on each level	No. Of Levels	Total area	Replacement Cost New (Php/m²)	Age/ Depreciation Factor	Value for RPT (Php)
Main Building	3,000m²	6	18,000 m²	25,000	Depreciated 2% pa for 5 years = 10%. Thus, 90% of cost.	18,000 x (25,000 x 0.90) = **405,000,000**
Pharmacy Building	340m²	1	340m²	15,000		340 x (15,000 x 0.90) = **4,590,000**
Car park	1,660m²	1	1,660m²	950		1660 x (950x.90) = **1,419,300**
Other	Ambulance entry and canopy	1		200,000		200,000 x 0.90 = **180,000**
Total Building and Improvements Value for RPT						**411,189,300** (Rounded off) **411,200,000**

Depreciation rate used in this example is arbitrary and actual rate used would be based on the actual condition of the building.

SCHOOLS AND ACADEMIC INSTITUTIONS

The valuation of schools and academic institutions is relatively straightforward. It is based on the land value derived from comparable sales (if any) or by combining the hypothetical development and extraction method. Although a property used exclusively for educational purposes is not taxable, it is still classified and valued as required by the Local Government Code. Equipment for schools are not necessarily covered by tax exemptions. Generally, only lands and buildings are exempted.

The land value concept is based on the argument 'how much would a buyer pay if they want to buy a school site in the locality and land was available for sale?'. The answer is that they would have to compete in the market with anyone else interested in the parcel of land. Thus, they faced with

competitive forces from subdividers or other developers and, in order to be successful, the buyer would have to pay a market value in line with other users.

However, as with golf courses, the actual location of a school is not particularly critical. A school will attract pupils; thus, it does not have to be constructed at its exact and actual location.

The value basis of a school site is similar to that of a golf course. The land component is determined using comparable sales of large areas of land in the locality or using the hypothetical development/ extraction method.

> **Caution**: As with many special purpose properties, school sites must be valuated carefully to avoid 'double taxation'. In isolation, a school site's land value will likely be similar to the value of a vacant land in the locality that is available for development. This land value is likely to be substantial. For this value to be realized, the school buildings have to be disregarded. A land developer would not pay the full price for the land and then pay extra for the school buildings, as the structure would have no use or value to them.

If there was a regular market for schools, the problem can be resolved by analyzing school sales. But this is not the case. Thus, the assessor/appraiser has to determine the value of a school site and improvements. Generally, the land will be zoned or reserved in some way for education purposes; in which case, the value of the land will be limited by any zoning or related restrictions on use. In order to determine the appropriate land value, the assessor/appraiser must consider that:

1. The property should be valued according to the market value definition, which assumes a willing buyer and willing seller, etc.
2. Land and buildings should be assessed separately
3. Sales data on school sites are unlikely to be available.
4. Based on the principle of substitution, as there are no sales, the value could be considered to be the amount the school would have to pay to replace the site in the vicinity, assuming a site was available (consider hypothetical development exercise).
5. The buyer can buy land anywhere in the locality given that, for the most part, the school attracts its own students (students will travel to the school), rather than the school looking for an area where most students live.
6. A school would most likely buy the cheapest land in the area, as it has no need for prime land.
7. The value of school land would, therefore, be the value of an un-subdivided raw land parcel of the lowest quality in the area.

In many cases this is a hypothetical value. However, this is intended to recognize the value of the site with the actual limitations imposed by the existing school in place.

Buildings are valued on the standard depreciated replacement cost, although there is a caution here. Although desks, chairs, portable blackboards and other school requirements are essential to school operations, they are not part of the real estate (neither land, building or machinery) and are not included for RPT purposes. These are no more taxable than gymnasium items or sporting equipment. The taxable elements of a school (if the school was considered taxable) are the land and buildings and other fixed improvements. Fittings, such as built-in laboratory sinks and even enclosed exhaust and ventilation chambers that are part of a science building, would be part of the building component, but not the desks and furniture.

GASOLINE STATIONS

The value of a gasoline station is linked to the operation of the gasoline station as with many special purpose properties. As such the assessor/appraiser must separate the business value from the value of the real estate. The value of the gas station has a particular value in the hands of the operator, but no one else.

As operators of fast food outlets target particular sites for their retail activities, so do the operators of gasoline stations, because many gas stations are built on leased land. Leases that are commonly long-term allow the oil company to sub-lease and/or franchise the site. The gasoline company usually constructs the improvements. Some gas stations are operated directly by oil companies, whereas some are sub-leased to authorized retailers.

The value of the gas station as a whole business is determined mostly by the volume of petrol and diesel fuel sold and related sales, and tabulated on a monthly basis. Thus, an operating site, which sells 750,000 liters a month, would be expected to have a value to the gas company of approximately 50% greater than a site that sells 500,000 liters a month. This would not necessarily depend on the land area, but on the relationship to paying customers.

The volume of fuel sales will be directly related to accessible traffic flow, and also influenced by marketing and advertising efforts of the parent oil company. This can also be affected by other factors (presence of a retail shop or mini-fast food outlet, distance to the next gas station, etc.) that could lure a driver into the gas station. Urban gas stations rely mostly on gasoline sales, and sometimes mechanical repairs and tire sales, for their revenue. Those located along highways or in some other areas not only have gas sales, but also vehicle service repairs and tire sales areas, fast food outlets, and restaurants with substantial comfort rooms and other features.

Oil companies are a classic 'special purpose buyer' who will pay extra to get the site they need — whether they lease the property from an owner or buy it outright. The valuation of gas station sites for RPT in urban areas, or where there are other lands that can be made available for occupation (or at least theoretical options for an operator to occupy), are treated as ordinary land value for the area.

For the most part, the land value of a gas station will be good if situated in commercial area, and will likely have an appropriate increase if it is located on a corner. Gas station buyers would normally pay above market value. As such, it is inappropriate to tax gas stations based on their special use. The gas station players in the market are not large enough to influence the market as a whole. It would be unreasonable, for instance, to value every corner site as a potential gas station site as this is unrealistic. Thus, gas station sites should be treated as any high-valued desirable property, but not targeted, from an LGU appraisal sense, as a gas station.

When land is located or specially set aside along a highway for a service area or gas station, the appraiser must consider the market for that particular site. If the land is zoned or specifically declared by the authorities to be a roadside gas station, then the value must reflect the special benefit (and the likely high level of competition for the site) that would exist for oil companies to secure the site. The land will have its own particular value, as the land cannot be compared or used for any other purpose. Thus, the land can be valued specifically for a gas station (contrary to a normal site in a general business area for instance). The value would be the amount oil companies would pay for these sites, which may be leased or as freehold, depending on the nature of the individual property.

Oil companies, the Registry of Deeds or the seller may have this information. The cost of buildings is determined by the depreciated replacement cost method. Machinery and equipment (pumps and tanks and their appurtenances) need to be considered, as opposed to hospitals where much of the piping or ducting simply passes through walls and not run within walls.

SHOPPING MALLS AND CENTERS

Shopping malls are massive investment projects that benefits property owner/developer through the returns derived from leases of various individual shops and concessions within the shopping center.

The best way to value such a property is to understand how buyers and sellers of this types of properties see, and occasionally trade, their assets. From an investment perspective, property owners consider their Discounted Cash Flow (DCF) circumstances, which in a multi-tenanted and comprehensive mall is a complex process requiring a host of detailed information.

A simpler method though is to capitalize the current net rents from the shopping center

in the normal course of capitalization process. This, however, provides a marginally less accurate valuation, as this provides a valuation of the whole property and does not distinguish the value of the land from the value contributed by the buildings. Nevertheless, this method is adequate for RPT purposes.

The lack of reliable information needs to be hurdled in order to come up with the correct valuation of properties.

The preferred method of valuation requires some form of financial analysis of the rental income of the shopping center or mall, as this best fits the basis of the real value of this type of properties. It may be necessary to revert to the cost approach if financial and cash flow information is not available.

Capitalization of Rents. The capitalization method relies on obtaining the actual gross rents paid by retail tenants and other commercial tenants within the complex, together with the related expenses of the property owner/developer in obtaining the rents. Lease information are held by the mall management company, who may or may not release such information. However, Section 171 of the Local Government Code provides that this information should be available to the local treasurer or delegated person (who may be the assessor). The lack of accurate and timely information may prevent the assessor/appraiser from using the true figures.

On the other hand, the net rental information can be obtained from the tenants and property owner/developer.

A possible complication with some lease arrangements is that a tenant may be required to contribute a portion of their gross as rent. Although not unusual, it may still pose difficulties as tenants may not be prepared to release sales turnover data to the assessor.

In the case of a mall or similar facility, the owner's management costs are deducted from the gross rental. Many of the mall operators appear to be 'owner operators' who are entitled to have their own costs for managing the shopping center deducted from gross rents, but not from profit.

Many of the large conglomerates that own malls can have distinct real estate, construction, property management and retail businesses. On the surface, they may appear to be one company/organization, but they could be separate businesses under corporate law. Management costs and equivalents of commissions on leasing are deductible against the shopping mall (in the same way these costs would be deductible if a contractor or managing agent runs the facility).

Shopping malls and similar facilities must be viewed as functioning real estate, and not from the perspective of a specific owner. The cost of advertising and marketing may be deducted like management costs. Advertising may be a major expense; thus, should be deducted as a legitimate component of the shopping center or mall activity. However, it must only be for the general promotion

or marketing of the whole mall, and not targeted to attract shoppers to the store/s belonging to the mall operator. Such targeted advertising is a matter for the retail activity of the major retailer if they are the mall operator and have a store as well, and is not part of the promotion of all traders.

Having determined the net rental, this amount is capitalized at the appropriate rate analyzed from other malls, or as may be provided by various mall owners or managers. On this basis, the total value of the property is determined.

The total value has then to be split between the land component and the building component.

To separate one from the other requires a sound method of determining one of the two values. Determining the unknown value is simply done by deducting the known component from the total value in order to establish the value of the land or the buildings.

Land value can be determined by capitalization of local ground rents if they are available. Given the size of many of these sites, ground rents may not be available. Similarly, there may be no local comparable sales; thus, the direct comparison with local land sales may be out of question. However, an assessor/appraiser may adopt values of land from outside the LGU or undergo a wider research within the province or region.

In considering special use properties (be they malls, golf courses, etc.,), the assessor/appraiser must consider that the market for these properties is national, and not just for the immediate locality. The big players in the market for malls, hospitals, etc., know they have the capacity to draw customers from a wide catchment area, and that the products they sell (which allow them to pay or charge the rent) are mostly sold at a fixed price. Thus, it is possible to compare a site in one LGU to another, for which the cost of actually operating and managing a similarly sized special purpose property in any comparable LGU in the Philippines will not vary that much.

Allowances for size, access to good passenger transport for customers, etc., must be considered when making a comparison or adjustment (in the same way as an ordinary retail outlet, but on a more comprehensive scale). It is not the actual distance that affects comparability, but the economic, physical and political circumstances applicable to a property. Several transactions would be needed to analyze and provide confidence in the resulting land value.

Thus, if the capitalized value can be calculated and the land value can be determined, then the value of the building improvements will be the difference between the two.

Land value can be determined by sales using capitalization of land rents (if the information is available) and using the hypothetical development method (extraction). Extraction method, however, presupposes that the assessor/appraiser knows some of the elements of the values and costs in order to build the model from which the unknown values are extracted (yet these may be the very items the assessor/appraiser is trying to establish).

If land value is unknown, it may be obtained by first determining the building value using DRC. Then, deduct the building value from the total value (obtained using the capitalization method), to get the land value.

Determining values using the capitalization process involves a number of complex steps and requires getting reliable information which may be difficult to obtain. Thus, the appraiser must be prepared to consider the cost approach (DRC plus land) determining any form of values for any form of a complex shopping mall.

Thus, land value may be determined by using the most reliable method available, which should be guided by the information that can be collected, i.e., for new centers, it may be the purchase price itself if such price seems reasonable.

DRC, on the other hand, can be a practical and realistic method to determine the value of improvements in shopping malls. In calculating DRC/RCN, the assessor/appraiser must include all elements of construction, particularly the cost of fixed mechanical items (e.g., escalators, lifts, etc.) These are intrinsic parts of the building and are considered essential to this type of development, although such may be installed at the later stages of the construction process. However, these are not machinery. Note that for RPT, mechanical items such as air conditioning system, air handling unit, pumps, generators, etc., would be issued with separate tax declarations.

Depreciation with regard to shopping centers focuses mostly on physical deterioration, rather than economic or obsolescence factors. Most shopping centers are reasonably well-maintained in order to retain the interest of shoppers and the presence of retail tenants. Given the sturdy nature of most shopping centers, the depreciation rate is likely to be very low in the early years of the life of the property. Rental income can be a reliable reflection of depreciation rate. When a center retains strong tenant interest and rental, depreciation rate may be considerably low. As soon as tenant's interest in the property drops, depreciation rate will increase rapidly.

In considering depreciation of shopping centers/malls, the assessor/appraiser must remember that depreciation is due to several factors:

• Physical deterioration (wear and tear, damage by weather, etc.)

• Functional obsolescence (changes in need for this type of building, i.e., building might be fine but people no longer use shopping malls so the building as a mall is becoming obsolete)

• Economic obsolescence (essentially caused by external factors, e.g., the building, although in good condition and suitable for retail, has few customers as the neighborhood has become industrial and people have moved away; or perhaps the area has become more suitable for high-density office space, and the old mall loses value compared to other uses and no longer contributes to the highest and best use).

Thus, as can be seen by the above elements:

- Malls are subject to depreciation where the rate of depreciation is likely to be low (they are mostly robust buildings that can be maintained). Normally, the depreciation of a mall type property would be minimal.

- Unless retailing changes substantially, the retailers will be interested to occupy parts of very large purpose-built structures (thus, there is usually tenant interest and income flow to the property owner/developer).

- Shopping centers and malls are usually strategically placed, large and profitable enough to influence surrounding values, and are seen as desirable for investment. Hence, it is unlikely that they will be excessively influenced by external factors. However, assessors/appraisers must be alert that when a new, bigger or better mall nearby is constructed, the value of the older mall may dramatically reduce. In this case, economic obsolescence of the older mall could be quite sudden and dramatic.

For practical RPT purposes, it is acceptable to value malls and shopping centers using land value plus DRC basis for the buildings and improvements.

QUARRIES AND EXTRACTIVE INDUSTRY

Mineral or Quarry Land

The value of land being quarried depends on the reserves of raw material and the expected extraction rate of this material. The rate of extraction directly affects the: (i) remaining life of the quarry, (ii) the volume of income and (iii) the speed with which this income is generated.

Quarry-type properties are valued based on the present value of future net income, with a residual amount attributed to the land at the end of the life of the quarry itself.

Any LGU is unlikely to mass-appraise quarry lands given their individual nature; thus, some form of individual valuation must be undertaken. Values and rates from the valuation may be applied to other similar properties. However, given that value is linked closely to production, the appraiser/ assessor must ensure that the values applied are equitable. The process of analysis and determination of value is best set out in the example below.

Profit Method

A 100-hectare quarry land located in a hillside site (i.e., quarry activity requires removing part of the hillside) is under lease agreement with an owner of a quarrying company, which has a remaining lease life of 47 years at the date of valuation. Rock tonnage reserves are estimated at 15,000,000 tons and the operator has a plant maximum capacity of 360,000 tons per annum.

The land would have a value (now), as if vacant, of Php280,000 per hectare. The operator is quarrying at maximum capacity with plant efficiency rate of 95% (i.e., material extracted is 95% of plant capacity) that can be extracted and sold. Of the saleable material, the quarry material to be produced is sold at varying prices for different stone sizes. Prices are 'quarry gate-prices' and do not include any elements for cartage. The land owner is bound by government, wherein the government collects royalty fees from the volume of extracted quarry material. If the land where the quarry is operating happens to be privately owned, then the operator of the quarry would pay a rent or royalty or a combination of both to the landowner. Calculating this item would appear in the same place as the 'royalty' element set out in the example set out below.

Given:

  Land Area = 100 hectares
  Remaining leasehold for 47 years
  Quarry (aggregates) reserves = 15,000,000 tons
  Rated capacity = 360,000 tons
  Quarrying efficiency = 95%
  Rock aggregates dimension, extraction rate and price per ton:

Size	Extraction (%)	Price/Ton (Php)
3/8"	10	170
5/8"	20	200
3/4"	50	210
1-1/2"	10	250
sub-std.	10	130

  Royalty = 10% of gross income (R.A. No. 7942)
  Operating costs = 50% of gross income

Find the Net Present Value (Solution)

1. Annual Gross Income
   a. Actual extraction = 360,000 tons at 95% = 342,000
   b. Breakdown of annual income

Size	Extraction (%)	Price/Ton (Php)	Actual Extraction (Tons)	Income (Php)
3/8"	10	170	342,000	5,814,000
5/8"	20	200	342,000	13,680,000
3/4"	50	210	342,000	35,910,000
1-1/2"	10	250	342,000	8,550,000
sub-std.	10	130	342,000	4,446,000
Annual Gross Income				**68,400,000**

2. Production Cost
Less:
   a. Royalty = Php68,400,000 at 10%   =   Php6,840,000
   b. Operating cost = Php68,400,000 at 50%   = Php34,200,000
   Total Production Cost   = Php41,040,000

3. Net Income from Operation (1-2)   = Php27,360,000
Less:
   a. Profit = 20% of gross income   = Php13,680,000
   b. Interest on Capital = 15% of Production Cost at 12% = Php738,720
   c. Profit + Interest (3a + 3b)   = Php14,418,720

4. Annual Net Income (3-3c)   = Php12,941,280

5. Estimated Life of Quarry Production
   a. Quarry reserves divided by actual extraction
      15,000,000 tons/342,000 tons per year = 43.86 or 44 years

6. Net Present Value $$\text{NPV} = \text{FV} \times \frac{(1+r)^n - 1}{r\,(1+r)^n}$$

Where: FV = Future Value (Annual Net Income)
       r = Capitalization Rate
       n = number of years

 Assume a capitalization rate of 18% (ideally from prevailing industry rate)

Replacing the values, thus:

$$NPV = 12{,}941{,}280 \times \frac{(1.18)^{44} - 1}{0.18 \times (1.18)^{44}}$$

$$= 12{,}941{,}280 \times 5.551737*$$
$$= Php71{,}846{,}583$$

*(can also be extracted from the Annuity Table)

The present value of the property after allowance for all business activities and profit for operations is Php71,846,583. It is the amount that can be expected to be paid for the property if it was put on the market as is.

To calculate the RPT value for the land, the assessor/appraiser must consider the value of the land as a quarry, and consider any value in the land after the completion of quarry activities (which is 44 years into the future).

The present value includes the value of the buildings on the site and fixed plant and machinery. To arrive at the land value, the assessor/appraiser must remove the value of the buildings and include an allowance for the value for the property in the future (i.e., the value of the flat cleared site after quarry operations cease).

In this case, consider:
- The depreciated value (RCN less depreciation) of the buildings and fixed machineries (not trucks and related vehicles or mobile digging equipment) is Php14,000,000; and
- The current value of local cleared land is Php280,000 per hectare (but will not be realized until the end of the lease), so it must be deferred by 44 years.

The calculation can be shown as:

Current value of real estate	Php71,846,583
Less DRC of buildings	Php14,000,000
Net Present Value	= Php57,846,583

Plus the value of the vacant land site (reversion of the site due in 44 years):

Php28,000,000 (100Ha. x Php280,000/ha) (due in 44 years) x 0.000687 at 18%

	=	19,236
Hence, the total value of the land	=	Php 57,865,849

The value for RPT of land would then be Php137M. The value for RPT of the buildings and fixed machinery would be Php14M, split between buildings and whatever fixed machinery used in production on the site.

TIMBER AND FOREST LANDS

The benefits from using timber and forest lands belonging to the Republic of the Philippines, or any of its political subdivisions which has been granted to a taxable person, is subject to real property taxation. For this purpose, such lands are valued and assessed yearly against the beneficial user at the market value of the marketable timber. This is based on the annual volume of timber "actually cut" from the operational area during the preceding year regardless of the annual total "allowable cut" indicated in the lease agreement. Refer to the specific discussions on valuation of forest land area in Chapter 2: Valuation Approaches, Techniques and Applications.

OTHER SPECIAL PURPOSE PROPERTIES

The valuation approach to other special purpose properties depends upon the nature of the property. However, all property types can be addressed by one (or a combination) of the three principle methods of valuation: (1) Direct Comparison, (2) Cost Approach or (3) Income Capitalization.

Processes involving discounted cash-flow, extraction or hypothetical development, and other methods are all variations of the three principal methods.

One of the great difficulties with special properties lies on the cost and value, which is discussed extensively in the Residential Chapter of this Guidebook. As far as specialized property is concerned, as highlighted in the Philippine Valuation Standards, business interests must be separated from real estate interest.

Some special purpose properties (i.e., convention center or other public-type structure), are built 'for a very special purpose' and do not have a market value in the normal sense of the definition. They may also occupy large areas of land (needed for car park) and other similar facilities.

Such buildings are very expensive to construct, are often not used to full capacity and, in essence, are over-capitalized from the start. The operation of these properties is usually subsidized by some external source, as the properties are not self-sustaining. Nevertheless, these are built to serve a purpose and, in most cases, are not reflective of 'market value'. Thus, not all properties (mostly buildings) can be dealt with analytical computation based on economic contribution.

Their values are best determined by the DRC method with the understanding that if there was no demand for these properties, they would not be built in the first place. The fact that the land had been allocated or purchased, and that buildings were designed and built at great expense, indicates that these assets have social contributions which can not be quantified.

Cinemas are also special purpose properties since they are large cavernous buildings with sloping floors. These buildings are usually air-conditioned and have special acoustic features built into the design and structure. They are purposely built and not readily convertible for any other use.

Obsolescence can also occur rapidly, particularly with buildings of a special nature that have little or no alternate use. At times when the industry or market landscape changes, such that demand for the product is no longer present, special purpose properties can rapidly decrease in value.

A classic example of almost instant obsolescence is the decline of cinemas when televisions were introduced many years ago and, much later, when alternatives became popular (e.g., CD, DVDs, etc.) As a result, the income generated by patrons visiting the cinemas dropped substantially, to the extent that operating a cinema was no longer viable. Many of these buildings were demolished, and the land and/or building was used or converted for some other purpose. In such cases, there is almost instant obsolescence.

7

Valuation Testing
for Mass Appraisal

INTRODUCTION

Testing of results is essential in establishing the confidence factor in any valuation process involving mass appraisal. Unlike individual valuations (where the subject property value is derived from individual and specific analysis of sales, followed by an assembly of pertinent facts; and their values or influence on value of the subject property), mass appraisal adopts uniform unit value for various elements pertaining to a property and then applies this to other properties in order to establish the value of a large number of similar properties at one time. Hence, some property values would fall outside the accepted percentage of error.

A mass appraisal undertaken within any LGU is only as good as the available information within the concerned LGU or obtained from other relevant sources. To determine the reliability of a mass appraisal exercise, the Assessor must determine a tolerable margin of error, and then do some benchmark testing to confirm the accuracy of the mass appraisal. This should be set together with adjoining LGUs. It is likely that LGUs with common boundaries will have common advantages and disadvantages and, as discussed, may well be using information from each other's sales database or other resources (e.g.,VDIS). Thus, it should have similar levels of accuracy. Reference may also be made to the Provincial Assessor who may have a view on accuracy tolerance.

Assume that the derived values were tested for accuracy. That is, 90% of the properties assessed should have values within 90% of the true sale prices of those properties sold within a certain range of time before or after the date set for the general revision. A 90/90 criteria is a very high standard and is not easily met. A mere detailed discussion is presented in the succeeding sections.

The percentage factor is variable and may be adjusted to meet the circumstances of the LGU. Some property types within an LGU can be readily appraised, and an LGU may specify that it expects a 90/90 result in all subdivision areas. However, in general residential or commercial areas where there are few sales, a substantial variety of property construction types, mixed uses and various land sizes, a much wider margin may be acceptable. The greater the accuracy, the less likely it would evoke dissatisfaction among taxpayers and conflicts between buyer and seller.

In considering objections to the values or formal appeals, mass appraisal principles only recognise complaints as legitimate when the value for RPT is incorrect with reference to the real market value, and not when it is incorrect with reference to other RPT values. The complaint has to be related to market and not a case of one property value against another property value.

After appraising a group of properties, all completed work should be reviewed by the assessor or the Supervising Appraiser. A field review of the appraisals must be conducted to ensure that accuracy and uniformity is maintained within the group, as well as among appraisers and all other groups. At this point, the final responsibility to ensure uniformity and equity rests with the Assessor and/or the Supervising Appraisers.

The supervisor's field review should be conducted as soon as possible after receiving the proposed base rates of value for different property types. Adjustments or corrections can be made before the appraiser completes other value types and before any dealings with the Provincial Assessor or submission to the Sanggunian or local council.

In conducting the field review, the supervisor must check values in relation to the benchmark properties, as well as land and depreciation schedules developed for the neighborhood. This will require an occasional interior and exterior physical inspection to review accuracy of property data, improvement class, current condition (percent good) selection, and land base factors. If errors are found, more properties should be inspected in order to best establish the reasons for any discrepancy. The errors should be documented and reviewed with the appraiser so that corrective action can be taken.

ACTUAL TESTING

Actual testing is simply a matter of selecting a 'sold' property within the range being tested (for which the market value sale price is known), and applying the proposed SMV rates to the components of the particular property. This will determine the accuracy of the derived value as compared to the market value. The values must be tested against actual market priced transactions and not against declared prices, as the latter could easily be wrong. In circumstances where there are no market level sales, the LGU may have to conduct a proper and independent valuation of a property (thus,

establishing an accurate substitute for a market value sale) as a *de-facto* sale, and test the mass appraisal result against this substitute transaction.

QUALITY CONTROL MEASURES

The final stage in the Mass Appraisal process is to conduct a statistical review and analysis of the results. The review, referred to as Ratio Studies, requires analyzing both the level of accuracy and the degree of uniformity achieved in the appraisal process.

Ratio Studies compare appraised values with relevant market values derived from sales. Appraisal performance is measured by considering two key elements:

> 1. **Accuracy:** Utilizing the median Value to Price Ratio (VPR) to determine the closeness of a valuation to actual prices.

> 2. **Uniformity:** Utilizing the Coefficient of Dispersion (COD) to measure the consistency of the level of accuracy.

For example, a valuer who values three properties each at 80% of actual price, although uniform, is not within the 90/90 criteria.

ACCURACY AND RELIABILITY OF VALUES

Accuracy is checked by simply comparing the values adopted against the actual sale prices of those properties sold at a proper market level of value within the sub-market group. The Value to Price Ratio (VPR) is determined by simply dividing the value by the actual price.

$$VPR = Value / Price \times 100$$

For instance, a value of house that sold for Php1,100,000 and was valued by the assessor at Php1,020,000 would have a VPR of 93% (1,020,000/1,100,000 = 0.927). Hence, the assessor's valuation is 93% accurate.

There are no international standards of accuracy agreed upon for mass appraisal VPR purposes. An achievement of better than 90% across the LGU is good and generally acceptable. An LGU that could achieve an accuracy of 90% or greater across the tested properties could consider the valuation to be very reliable, although some adjustments must be made to those that fell outside the 90% accuracy. An 85% result or less could be acceptable in many LGUs where information are scarce and property types and condition in any location vary substantially.

There are processes for owners or administrators to appeal against assessments they believe are incorrect, and these are set out in the Assessor's Manual.

TESTING RELIABILITY OF VALUES

A sample list of some properties sold within a sub-market group and their respective values based on mass appraisal for a particular sub-market group is shown below.

Table 71. Sample List of Sales Prices and LGU Proposed Values

Sale	Sale Price (Php)	Assessor's Value (Php)	Observation
1	1,220,000	1,065,000	
2	1,250,000	1,100,000	
3	1,350,000	1,200,000	
4	1,450,000	1,350,000	
5	1,100,000	1,020,000	This table indicates that most of the typical derived values are very close to the actual market value/ sale prices.
6	925,000	874,000	
7	1,365,000	1,300,000	
8	1,050,000	1,010,000	
9	1,150,000	1,100,000	
10	1,000,000	975,000	
11	965,000	960,000	
12	960,000	950,000	
13	875,000	885,000	
14	865,000	870,000	
15	990,000	1,010,000	

The same table can be analyzed further to highlight the 'Value to Price Ratio' (VPR). In this example, an accuracy of 10% on either side of the mid-point of the value range was deemed by the LGU as acceptable.

Table 72. Value to Price Ratio

Sale	Sale Price	Assessor's Value	VPR (%)	Observation
1	1,220,000	1,065,000	87.30	
2	1,250,000	1,100,000	88.00	Not OK
3	1,350,000	1,200,000	88.89	
4	1,450,000	1,350,000	93.10	
5	1,100,000	1,020,000	92.73	
6	925,000	874,000	94.49	
7	1,365,000	1,300,000	95.24	OK
8	1,050,000	1,010,000	96.19	
9	1,150,000	1,100,000	95.65	
10	1,000,000	975,000	97.50	

(Cont...) Table 72. Value to Price Ratio

Sale	Sale Price	Assessor's Value	VPR (%)	Observation
11	965,000	960,000	99.48	
12	960,000	950,000	98.96	
13	875,000	885,000	101.14	OK
14	865,000	870,000	100.58	
15	990,000	1,010,000	102.02	

In the example, if it is considered that an error of up to 10% on either side of the selling price is acceptable, then we can determine the number of property values falling outside the acceptable range. A 10% factor on either side of the market value is used in the above example to illustrate where the values may fall above the established price and still be acceptable to the LGU.

In this case, three out of 15 values or 20% are not acceptable; thus, they must be reviewed as they fall outside the acceptable range of 10%. The three properties or their calculations and unit values may need to be reconsidered if a tighter result is required, although at a +10% or -10% margin, the results are acceptable. Upon inspection, if the erroneous properties showed particular characteristics that put them outside the sub-market group or were distinctive in some way, then individual adjustments might need to be made. In cases where 20% or 30% of properties are outside the 10% accuracy range (depending on how big the sample population is), then it is likely that the base values/square meter rates contributing to the value are wrong, and should be reviewed or the accuracy requirement should be reconsidered.

The above table can be graphed (using spreadsheet application) to show the relationship between the valuations and the sale prices.

Figure 9. Assessed Value and Selling Price of Properties
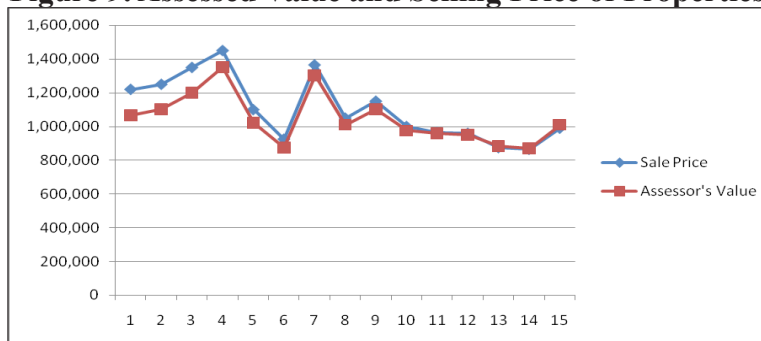
Considering that the values adopted on the tables above are mostly satisfactory, converting the information on the tables into a graph would show that at the higher levels of transaction (e.g., above Php1,200,000), a gap starts to become apparent between the sale prices and the value levels. This may indicate hesitance to apply full value to properties at the upper end of the value scale in this sub-market group; thus, creating inequity between sub-market groups.

To advance the process further, an analysis of the coefficient of dispersion (COD) may be done using the same data. The COD measures the average percentage deviation of the ratios from the median value to price ratio. It is the average error expressed as a percentage. A low dispersion rate indicates a better appraisal and a more uniform spread of RPT. COD can be a very reliable test in homogeneous markets.

Completing a COD is not necessary in the early development of market-based mass appraisal, but may be of interest to those with greater understanding of mathematics and statistics. A detailed discussion of the COD is outside the range of this Guidebook, but is presented below for illustration purposes.

The Standard on Ratio Studies, produced by the International Association of Assessing Officers, is a useful guide and may be viewed at *http://www.iaao.org/sitePages.cfm?Page=219*

The sales data earlier discussed can be set out in calculating the COD as shown on the next page.

Table 73. Value to Price Ratio with Coefficient of Dispersion

A	B	C	D	E	F
Sale	Sale Price	Assessor's Value	Value Price Ratio (VPR) = C/B	Difference of VPR from Median VPR = D - 0.9565	Absolute Difference of VPR from Median VPR = (E in absolute number)
1	1,220,000	1,065,000	0.8730	-0.0835	0.0835
2	1,250,000	1,100,000	0.8800	-0.0765	0.0765
3	1,350,000	1,200,000	0.8889	-0.0676	0.0676
4	1,450,000	1,350,000	0.9310	-0.0255	0.0255
5	1,100,000	1,020,000	0.9273	-0.0292	0.0292
6	925,000	874,000	0.9449	-0.0116	0.0116
7	1,365,000	1,300,000	0.9524	-0.0041	0.0041
8	1,050,000	1,010,000	0.9619	0.0054	0.0054
9	1,150,000	1,100,000	0.9565	0.0000	0.0000
10	1,000,000	975,000	0.9750	0.0185	0.0185
11	965,000	960,000	0.9948	0.0383	0.0383
12	960,000	950,000	0.9896	0.0331	0.0331
13	875,000	885,000	1.0114	0.0549	0.0549
14	865,000	870,000	1.0058	0.0493	0.0493
15	990,000	1,010,000	1.0202	0.0637	0.0637
		Median VPR	0.9565	Total	0.5612
				Average (Mean)	0.0374
				COD	0.04 or 4%

The above examples are for the total value of a whole property, and provide measure of the base rates for each of the land and buildings. If the proposed values per square meter for each of land and building are accurate, then the total values will be valid. If land values proposed were low and building values were high then some properties would have compensating errors that would not show in the study.

To actually calculate a COD for RPT appraisal purposes, the average percentage deviation of the VPR's from the median ratio needs to be determined. This involves:

- Establishing the VPR's for the sample (column D)
- Establishing the median for the sample (Median VPR= 0.96)
- Subtracting the median from each ratio in the sample (column E)
- Converting the difference above to an absolute number (i.e., no negatives) which appear in column F
- Total the absolute differences (total = 0.5648)
- Divide this total by the number of properties in the sample 15 in this case Average (Mean) = 0.0377
- Divide the result by the median and multiply by 100 (COD = 3.91%)

The result indicates that the average error is only 3.9%, which would be an excellent result, and unlikely achievable in real circumstances. The same table can be calculated with some additional VPR's that show a greater divergence from market value, and the addition of four more properties (sales 16-19).

Table 74: Modified Value Price Ratio *(with additional data)*

A	B	C	D	E	F
Sale	Sale Price	Assessor's Value	Value Price Ratio (VPR) =C/B x 100	Difference of VPR from Median VPR =C-0.98	Absolute Difference of VPR from Median VPR =ABS(E)
1	1,220,000	1,065,000	87%	-11%	11%
2	1,250,000	1,100,000	88%	-10%	10%
3	1,350,000	1,200,000	89%	-9%	9%
4	1,450,000	1,350,000	93%	-5%	5%
5	1,100,000	1,020,000	93%	-5%	5%
6	925,000	874,000	94%	-4%	4%
7	1,365,000	1,300,000	95%	-3%	3%
8	1,050,000	1,010,000	96%	-2%	2%
9	1,150,000	1,100,000	96%	-2%	2%
10	1,000,000	975,000	98%	0%	0%
11	965,000	960,000	99%	1%	1%
12	960,000	950,000	99%	1%	1%
13	875,000	885,000	101%	3%	3%

(Cont...) Table 74: Modified Value Price Ratio *(with additional data)*

A	B	C	D	E	F
Sale	Sale Price	Assessor's Value	Value Price Ratio (VPR) =C/B x 100	Difference of VPR from Median VPR =C-0.98	Absolute Difference of VPR from Median VPR =ABS(E)
14	865,000	870,000	101%	3%	3%
15	990,000	1,010,000	102%	4%	4%
16	972,000	1,220,000	126%	28%	28%
17	1,000,000	1,300,000	130%	32%	32%
18	1,050,000	1,375,000	131%	33%	33%
19	950,000	1,275,000	134%	36%	36%
		Median VPR	0.98	Total	192%
				Average (Mean)	10.09%
				COD	10.29%

As can be seen in the table above with four additional highly erroneous valuations, the COD changes substantially. A COD of 10.29% might be fine overall, but further analysis would show that the four additional valuations would have a greater than 25% error. These would be identified when dealing with the simple value to price ratio, and would also show up if graphed. There may be errors in the calculations if an error greater than 25% occurs (as in this case). Possibly, the property details for these properties are incorrect which skewed the results. Details of these properties must be reviewed if the LGU had set its margin for accuracy (VPR) at any less than a 26% error.

Ideally, the measure of dispersion should be small for any data. A small value for the measure means that the values in the data are more or less consistent, centering on their average.

The tables above can represent each of land value and total value. However, it is not as reliable as a measure in the case of improvements only. Establishing improvements values in isolation requires manipulating sales and analysis; thus, the assessor would be using analyzed information, which is not a good test of reliability.

It is common practice for LGU assessors to seek 'opinion values' from other property professionals in order to contribute to the values adopted by the LGU. However, assessors must be careful in incorporating these values into the initial decision-making processes for the SMV. Opinion values from brokers, realtors, banks, private appraisers and property developers, etc., may each contain an influence of bias, based on:

(1) The experience and nature of the property dealings the person has

(2) The knowledge that the opinion value is being sought for taxation purposes, whereby the opinion provider may deliberately or unintentionally lower their opinion to keep RPT levels down

(3) The limited share of the property market in which that particular person deals (not all persons deal with the whole of the LGU, or all property types within the LGU).

The opinion providers are well aware that the opinion they provide will not likely influence the actual transaction prices/true values of properties in any case. Hence, their commitment in providing reliable opinions should be treated carefully.

In addition, the research undertaken by the LGU should be thorough, and probably much more reliable than that of outside parties who may simply allocate opinion values (albeit based on extensive experience in some cases) over a few hours of looking at a map.

However, opinion values provide the opportunity to review the LGU-proposed values. If the LGU values are well out of line with opinion values submitted, the LGU should, at the very least, give careful thought to its proposed values. This is not to say values should automatically be changed. As for the most part, LGU values should be the best around, given the methodologies in this Guidebook. However, opinion values provide the chance for a final reality check. Opinion values reassure and support the levels developed within the SMV.

Appendices

APPENDIX 1
RESIDENTIAL DATA COLLECTION SHEET

The real property Data Collection Sheet (DCS) was prepared to assist in gathering information from sellers and buyer, brokers, developers, etc. These are entered into the VDIS database for subsequent analysis and research.

The forms in the DCS are aligned with the field input requirements as shown in the screen of the VDIS.

The real property DCS serves the following purposes:

- To record information on the property details which is available from the LGU FAAS Tax Declaration Form;
- To record property details which can be obtained from ocular inspection of the property transacted;
- To record terms and conditions of the sales transactions; and
- To facilitate data entry in the spreadsheets for data analysis.

The DCS has 23 items that need to be completed. It also provides additional areas where a sketch, photo or notes can be entered.

- Part 1 - Items 1 to 6 comprise information from the FAAS/ Tax Declaration Form, plus the Recorded Sale Price. Section 1 can be completed in the Assessor's office prior to inspecting the property.

- Part 2 - Items 7 to 11 generally describes the property resulting from the ocular inspection.

- Part 3 - Items 12 to 23 comprise information obtained from the buyer, broker or other sources with regard to the sale/purchase of the property.

- Part 4 (Page 4) is the table that guides in determining whether the building condition may be considered Good, Fair or Poor.

The DCS set out on the next pages explains the questions and offers suggestions on how the data gatherer can obtain reliable information from the respondents.

REAL PROPERTY DATA COLLECTION SHEET
(Residential Sales Analysis)

<table>
<tr><td rowspan="8" style="writing-mode:vertical-rl">PART 1</td><td style="text-align:center">Item</td><td style="text-align:center">Property Details</td></tr>
<tr><td>1.   Reference Number
    Tax Dec No……………</td><td>PIN (Land):……………………   PIN (Building):…………………
TCT Number: ………………   Zoning: …………………………...</td></tr>
<tr><td>2.   Property Address</td><td>Lot/Block Number:…………………. Street:……………… Zone………….
House Number:……………………. Block...............
Subdivision: ………………………..
Barangay: ………………………….. District:………………………….</td></tr>
<tr><td>3.   Land Area</td><td>Area:………….. Sq Meters</td></tr>
<tr><td>4.   Land Value</td><td>LGU Unit Value: ………………..   LGU Market Value : …………….
Adjusted? ☐ Yes   ☐ No</td></tr>
<tr><td>5.   Building   (from FAAS/
    Tax Declaration Form)

Additional notes or sketch may be placed on the rear of this sheet.</td><td>Year built:……….. ……….   No. of storeys:…………………
Building type: …………….   Building classification:……………
Other Extra Items. ☐ Substantial Fence ☐ Other Specify………………

             Component   Area
………………………………………   ………………..
………………………………………   ………………..
………………………………………   ………………..
………………………………………   ………………..
………………………………………   ………………..

                                      Total :……………………
 LGU Market Value of Building: …………..</td></tr>
<tr><td>6 Recorded Sale Price</td><td>Php …………………….</td></tr>
<tr><td rowspan="5" style="writing-mode:vertical-rl">PART 2</td><td>7.   General Description of the Location of the Property</td><td>General Neighborhood:…………………………………..
Width of street/road: ☐ wide ☐ standard ☐narrow ☐ alley/walkway
Road Surface: ☐ Natural ☐ Gravel ☐ Paved ☐ Formed drainage
Location: ☐ Corner ☐ Along the road ☐ Interior lot
Schools: ……...m   Shops: ……...m   Public Transport: ……….m
Landmarks within approximately 200m.:………….
Other factors that add or reduce value:………………………………..</td></tr>
<tr><td>8.   Topography   and   Land Shape</td><td>Terrain: ☐ Flat   ☐ Sloping
           ☐ Below street level 0.5m ☐ Below street level ≥0.5m
           ☐ At street level   ☐Above street level
           ☐ Above street level ≥0.5m
Land Shape: ☐ Rectangular ☐ Triangular ☐ L-shaped
           ☐ Others   Please specify:……………. ……………….. ……………
………………………………………………………………………….
Road frontage of the property: ☐ Wide ☐ Standard ☐ Narrow ☐ Nil</td></tr>
<tr><td>9. Actual Use</td><td>☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Mixed
☐ Others Please specify: ………………………</td></tr>
<tr><td>10. Services Available</td><td>☐ Electricity   ☐ Water ☐ Sewerage ☐ Septic ☐ Telephone
☐ Others. Please specify: ……………………..</td></tr>
<tr><td>11.   Building and other improvements</td><td>General Condition: ☐ Good ☐ Fair ☐ Poor
(See page 4.)</td></tr>
</table>

NOTES:…………………………………………………………………………………………………

………………………………………………………………………………………………………..

………………………………………………………………………………………………………....

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North

SKETCH of HOUSE or LOT PLAN				

PART 3

12. Property Sold	☐ Lot only ☐ House and Lot
13. Date of Sale	Recorded Date of Sale: ….…../……. (mm/ yy) Actual Date of Sale: ……/……. (mm/ yy) *(ie.. when deal was made, price agreed)*
14. Seller	☐Individual ☐ Corporation ☐ Real Estate Developer Name:…………………………………………………………
15. Buyer	☐ Individual ☐ Corporation ☐Real Estate Developer ☐ M ☐ F ☐ Joint Name:………………………………………
16. Related Parties	Arms Length? : ☐ Yes ☐ No ☐ Family ☐ Friends ☐ Employment ☐ Other
17. Type of Sale	☐ Cash Sale ☐ New loans from banks/ financial institutions ☐ Assumption of existing loans ☐ Seller financing/instalment
18. Sale Category	Open market ☐ Yes ☐No Forced sale ☐ Yes ☐No Advertised ☐ Yes ☐ No Auction sale ☐Yes ☐ No ☐ Broker Name … …………………… ☐ Others please specify: _____
19. Special Factor	☐ Adjoining property ……………… ☐ Other…………..
20. Actual Sale Price	Php_____
21 Taxes or other payments included, or made by buyer.	Type of Tax Amount Extra or Included? _____ _____ _____ _____ _____ _____ _____ _____ _____
22 Personal property (e.g., furniture, etc.) included in the sale price?	Type of Property Value _____ _____ _____ _____ _____ _____ _____ _____
23 Major changes or additions made in the property after the sale?	Changes Cost _____ _____ _____ _____ _____ _____
24. Covenants/ restrictions existing on the property?	Covenants/Restrictions _____ _____

Note: Please attach FAAS/ Tax Declaration Form, Map & Photograph of Building if Available

Interviewer Name & Sign   _____   Date accomplished: _____

Printed Name Interviewee: _____   Contact Details: _____

PART 4

Item	Good (3 points)	Fair (2 points)	Poor (1 point)	Nil (0 point)
Roof				
Walls				
Windows				
Ceiling				
Flooring				
Floor				
Paint/finishes				
Bathroom				
Kitchen				
Overall Layout	6	4	1	
Total	Max 33	Max 22	Max 10	
Grand Total		26-33 16-25 0-15 Result = ☐ Good ☐ Fair ☐ Poor		

ACCOMPLISHING THE RESIDENTIAL DATA COLLECTION SHEET

A standard method of data gathering and encoding is recommended to all data collectors in order to complete the real property Data Collection Sheet (DCS) properly and uniformly. The standard methodologies are discussed in the following sections.

Data gatherers must learn these standards prior to data collection or property inspection. Completing this sheet properly will make encoding easier and will enable appraisers to analyze transactions accurately. The better the quality of the analysis is, the more accurate the results of the valuation simulation will be, and accordingly, the more likely that the market value model will be adopted for the property tax base.

Completing the Residential DCS

Questionnaire items are sequenced in a manner that enables data collectors to record information logically. For example, the questions to the Buyer in Part 3 started with the simple ones, then progressed to the more difficult or 'confidential' matters. This will give the buyer time to be comfortable in answering questions before getting to the question regarding the purchase price.

In data gathering, data gatherers must clear with the respondents (e.g., property owner) that the information they provide will not be used to increase their individual property taxes, but will form part of a large database to be used for many purposes. Respondents must also be assured that the information will not be used against them, and that there are no repercussions given that they may have provided other contrary information on the transfer documents. Buyers, sellers and others involved are not expected to sign or endorse the information they provide.

Parts 3 and 4 of the Sheet should be filled out while at the property site. Some respondents may not be able to answer all questions as they may not recall specific information, or some questions may not be applicable to their property. Thus, the question should be noted with 'Not Applicable' N/A or 'No Knowledge' N/K as the case may be.

To collect good quality and reliable information, questions should be asked in a manner that prompts easy response.

PART 1 OF RESIDENTIAL DCS: Information held by the LGU

Part 1 relates mostly to information held by the LGU, and should be completed in the office before data gatherers go to the property. As with all parts of the Data Collection Sheet, information must be encoded correctly. Incorrect data affect the results of the analysis, consequently altering the level of value adopted for the valuation.

1. Reference and Zoning. Property Index Numbers (PIN) for Land and Buildings is located on the FAAS/ Tax Declaration Form. The TCT (Transfer Certificate of Title) number can be found on the Transfer documents and material from the Register of Deeds.

Zoning is identified on the maps held at the LGU. The property must be located correctly on the map before Zoning is recorded. Zoning dictates potential land use and has a substantial effect on value.

2. Property Address. This information relates to the location of the property as identified both on Tax Maps or plans, and on Tax Mapping Control Roll (TMCR). The information will allow this property to be identified both in the office and in the field.

3. Land Area. Land area is obtained from the FAAS & TMCR and is a key element in value.

4. Land Value. The 'LGU Base Value' is the 'Base Unit Market Value' on a street by street basis, obtained from the FAAS. It is the current level of value (per square meter) applicable to properties in this location, based on the area values, as applied during the last revision. This is not the current market value, as this shall be determined when the data being collected is analyzed.

The total LGU Market Value is the actual whole value deemed to apply to the land component of the property. This is the total amount obtained by multiplying the land area by the unit value if there are no adjustments applied, or the adjusted total market value if certain adjustments are applied.

'Adjusted' in this question relates to the LGU Base Value as applied to a particular property. Some properties in a particular area may have individual advantages or detriments (such as low lying or elevated, or maybe a drain) or a factor that can affect value not applicable to all properties in this location. In a Mass Appraisal, the general level of values (LGU Base Value) is applied to classes of property. An individual factor is then introduced to adjust the LGU Unit Value and reflect the advantage or detriment. The LGU Total Market Value is the LGU Base Value multiplied by the Adjustment Factor, multiplied further by the number of square meters of land.

5. Building. Information for this part of the Data Sheet is obtained from the FAAS - Building & Other Structures. This is a brief description of the buildings and other structural improvements on the property. This helps in the sales analysis, and in allocating values for various buildings (or parts of buildings) or constructions. This information will be checked during the ocular inspection of the property. Any variation will be recorded on Page 2 of the Data Collection Sheet.

6. Recorded Sale Price. The Recorded Sale Price is the official transaction price recorded on the Deed of Sale file in the Records Section and the Register of Deeds. This may, or may not, be the actual and true sale price.

PART 2 OF RESIDENTIAL DCS: Site Descriptors

The information for the questions in Part 2 of the Real Property Data Collection Sheet are recorded by the data collector during the identification and ocular inspection of the property. An element of the analysis will involve locational aspects of properties. Hence, the questions about location and road, etc., are relevant.

7. GENERAL DESCRIPTION

This refers to the location and neighborhood.

General Neighborhood: refers to the general location of the property, and may be considered to be that area within 200m of the property. This is the immediate area that owners or occupant would be aware of when they visit the property. Typical answers could be 'Residential', 'Mixed Residential and Commercial', 'Commercial', 'Industrial', or 'Subdivision'.

Type of street/road: refers to the affect of the road on the impression of the property. Wide or narrow road, gravel surface, etc., can affect a person's impression of a property, which may also affect value.

Road widths relate to the general width of roads in the LGU. Roads need not be measured, but can be estimated by comparing its road width with others in the vicinity. For example, many roads in a subdivision may be of standard width (for the subdivision access roads: according to the *IRR of PD 957 Subdivision & Condominium Buyer's Protective Decree* : main entrance - 20m, right of way - 8m, carriage way - 6m, sidewalk/planting strip - 2m, path walk - 1.2m) but narrow compared to roads outside the subdivision. This road would be recorded as 'Standard', as it is standard for such a subdivision.

Road surface relates to the finished surface of the road. 'Natural' means just plain earth surface or dirt road. 'Gravel' means a surface that has stones or some form of covering. 'Paved' means a finished surface of concrete or asphalt. 'Formed drainage' indicates a formal concrete or stone border on the road edge, with some form of constructed drainage for water drainage.

Schools, Shops, Transport: This is the approximate distance along a road or footpath to the nearest school, shop (not local trading center) or place to catch transport. If the distance is more than 1 kilometer, then write "> 1Km".

Landmarks within 200m: refer to significant features that might influence value, or be obvious from the property. This could be a church, mall, police station, park, river or any such item that might influence a person when purchasing. This is not a school or local shops, which are dealt with above.

Other factors that would add or reduce value: there may be some other special local influence affecting a property. This can be the presence of squatters, a new subdivision being developed close to the property or within the vicinity of an airport. This question allows the data collector to add any item which has not yet been included, but may be significant. This does not relate to the property itself, but to the locality.

8. Topography and Land Shape. Not only does the size of the land affect value, but also the shape and slope of the land. Land that is flat or slightly above road level often has a higher value than sloping land or land below road level.

Topography/Terrain. The terms 'Flat' and 'Sloping' refer to the general surface of the land itself. On the Sheet and below each of the 'Flat' and 'Sloping' headings are further refinements. These allow the land to be recorded in relation to the roadway or footpath at the front.

For example, a Flat site could be 'Below street level' meaning that the land is flat and basically level, but lower than street level and may need some filling to bring the land up to normal road level. This is common in some subdivisions where land is generally low. If land is only slightly below road level, does not require special attention prior to construction and is not seen as a problem, then the land can be considered to be "At street level'. Unless there is a particular problem, buyers are not too concerned with land that is within approximately 500m of the road level; thus, would not expect any variation in price. Land that is within 500m should be marked as 'At street level'.

'Flat above street level' would indicate that the land is elevated and it rises significantly above the roadway, sufficient to influence a buyer to pay a different amount to an ordinary flat lot.

Sloping lots rise or fall almost continuously from street level. Sloping above street level indicates that the land rises from the footpath or front of the property. Sloping below street level indicate that the land falls away from the street, towards the rear.

Shape. Shape affects value as well. A regular shaped rectangular parcel is considered the best shape for land, and can be efficiently built upon land, as it can be efficiently built on. Irregularly shaped land often has a lesser value than regularly shaped land.

Insofar as the Data Collection Sheet is concerned, 'Regular' means a rectangular shape approximately twice as long as it is wide. This is the common shape of lots, and, except for

retail property, is often the most valuable shape. Retail property has more value if it has a wider frontage which can be utilized for display or advertising purposes. The other shapes indicated are not expected to be accurately judged, but should be estimated based on observation. Most LGUs have a plan of the land. Thus, when the shape cannot be verified on site, then it may be determined in the office.

Road Frontage indicates the frontage of the land on to the road, and is compared with a typical frontage of properties in an area. What may be a wide frontage in one part of an LGU may be a narrow frontage in another. This is a local factor in relation to the normal frontages in the vicinity. For example, if most lots in a location have 15m frontages and the sale property has a 10m frontage, then the frontage would be 'Narrow'. In another location in the LGU, most blocks may have 10m frontages; thus, if the sale property has a 10m frontage, then the classification would be 'Standard'.

Some properties may have no frontage to a road, and thus, should be indicated as 'Nil'. In such cases, an explanatory note should be written on page 2, as a 'Nil' frontage can have a serious influence on value.

9. Land Use. Although most properties in this data collection exercise will be Residential, there may be a small number that are not. Item 9 requires the main use of the property to be recorded. For example, a residential property may have a small shop at the front, or a workshop at the rear. If the shop was there at the time of purchase which likely contributed to the value, then this needs to be recorded and considered in any analysis. If the shop or workshop was in existence but did not add value, then it should still be recorded as existing. However, this should not be considered in any sales analysis. It can be useful to ask any buyer if they paid extra as a result of this feature.

Note that this question relates to actual land use at time of purchase, and not the official zoning from a Town Planning perspective.

10. Services Available. Services are those normal connections that are required to fully utilize a property. These comprise water, electricity, sewer connection, perhaps drainage, (in some countries there is piped gas as well) and telephone. For most properties with a house constructed, these will already be connected to the house. In new developments, particularly where the transaction being examined is a vacant land, the service is not likely to be connected to the property, but will be available in the front of the street. Item 10 indicates the availability of a service and not the connection.

11. Building Condition. This item relates to the overall condition of the building, mostly from a maintenance and condition perspective. One of the key factors in a buyer's decision to buy a property (or how much they are willing to pay for the property) is the condition of the buildings (if any) and the amount to be spent for that building to be of good standard. If a building is in

poor condition, then a buyer is likely to pay less than s/he would for a good building, although what the buyer shall pay still has a 'market value' as the purchase price reflects the market for that quality (i.e., poor) property or building.

See discussions on Building Conditions on page 272.

Remember, we are trying to identify factors that can affect purchase price/market value. Should there be any factors or matters that would affect market value and they are not provided for on the first page of the Data Sheet, please take note of these items on page 2.

PART 3 OF RESIDENTIAL DCS: Interview

Part 3 of the Real Property Data Collection Sheet comprises the questions to be for the buyer, seller, broker, developer or to any knowledgeable person who can complete the form.

The answers to these items should all be provided by the interviewee. During the interview, the interviewer must avoid using the term 'you' to separate, in the mind of the respondent (particularly when interviewing the buyer), the transaction from the person. The LGU is interested in the real estate, not on the affairs of the buyer. Respondents are more likely to provide reliable answers if they realize that the questions are about the property transaction and not about their own affairs. Hence, a question could be, "When was the property purchased?" rather than, "When did you purchase the property?"

12. Property Sold. This item simply clarifies the actual item purchased and should not be a difficult question to answer. In most cases, the data collector will already know what was purchased, as this information is on the FAAS/ Tax Declaration Form. The data collector should just mark the Sheet where appropriate. In cases where there is a discrepancy, the data collector should clarify the actual subject of the sale, and then record this with appropriate explanation on Page 2 of the Sheet.

13. Date of Sale (Actual Date). The Date of Sale is a very significant item. This sets the date when the transaction was done and when that purchase price/level of value was applied. For purposes of this Sheet, only the 'Month' and 'Year' are collected as the actual day the transaction was done is not significant at this early stage of valuation and data analysis.

The 'Recorded Date of Sale' must be distinguished from the 'Actual Date of Sale'. The former is the date shown at the Registry of Deeds when the contract was entered into officially, and may or may not be close to the Actual Date. On the other hand, Actual Date is the date when the two parties (seller and buyer) agreed on the purchase price and to proceed with an actual sale.

Recorded Date of Sale is often many months after the Actual Date. This may be due to the delays in the preparation of contracts and in the lodgement of documents, financing agreement or other matters that takes time to resolve after the price has been agreed on.

The 'Actual Date of Sale' will be the same or prior to the Recorded Date of Sale.

14. Seller. This simply confirms the name and the nature of the seller for the data collector's reference. This question is included to provide a guide as to the reliability of recorded information, with the expectation that sales from corporations or developers are more likely to have the true purchase price shown on the Deed of Sale. This is also a question that an interviewee should be comfortable in answering. Some respondents may not recall the actual name of the seller, in which case the 'Name' can be left blank.

15. Buyer. This simply confirms the name and the status of the buyer. To collect data for gender purposes, questions regarding the gender of the buyer have been included. This refers to the formal Register of Deeds document and is an attempt to collect material on equity of home ownership. The boxes can be marked and record whether purchases are registered in the name of a male buyer only, female buyer only or as a joint purchase (both).

16. Relationship. A true market value sale happens when both parties to the transaction have equal capacity in the transaction and are under no special pressure to sell or buy.

Many sales that take place are not 'arms-length'; thus, the sale may not represent a true or unaffected market value. Examples of sales that are not 'arms-length' may be a sale between members or an employer and employee where the property transaction forms part of another arrangement, etc. Appraiser must know and consider this kind of transactions carefully before including them as examples of market value.

17. Type of Sale. A *'Cash Sale'* is the normal transaction whereby the seller receives the full payment from the buyer. Most Cash Sales will be by way of a Managers Cheque/Bank Cheque or perhaps an electronic transfer. There may be a separate payment as part of the cash sale where the buyer puts in a share of the purchase price with a separate cheque; but effectively, the seller receives a full payment upon delivery.

'Assumption of Existing Loan' is where a buyer takes over the loan responsibility and obligations of a seller. The buyer is expected to pay the seller a certain amount of cash and also assume responsibility of the seller's debt to the bank. The total amount of the assumed debt and the cash payment make up the full purchase price, and can have market value. Assuming an existing loan can sometimes lead to a higher price, as it is easy for a buyer to obtain the property (they do not have to worry about getting their own loan); other times, it may mean that the seller was desperate to sell and may have sold out cheaply. Knowing this loan position can explain

inconsistencies in sale price levels.

'Seller Financing' happens when the seller (often a developer) helps finance part or all of the purchase. The buyer pays interest to the seller just like in any normal loan. However, this practice often leads to slightly higher than market value prices as the buyer often provides the money under generous terms in order to sell the property. Also, the seller is not constrained by normal banking policies or restrictions and can lend as much as they like to whomever they choose.

18. Sale Category. The *'Sale Category'* item checks question 16, and confirms that the property was an open market transaction. Some respondents, particularly if he or she is the buyer, may not know if the sale was a forced sale (as this is an issue that really affects the seller).

'Open Market' refers to an arms-length transaction where any person with the capacity to purchase the property could have done so.

'Advertised' refers to the property being promoted to the public in a normal manner, whereby the sale is either advertised in the mass media, by a sign on the property, on a brokers list and in a broker's window, etc.

'Not Open Market' refers to a sale that was not offered in the normal manner, and thus, may have only been available to a limited number of buyers (thereby reducing the likelihood of obtaining the best price). Perhaps the property was sold before being advertised, or maybe the sellers did not want others to know the property was on the market.

'Forced Sale' is a transaction where the seller is under financial or other pressure to sell quickly. In this case, the need to sell quickly will outweigh the need to obtain the best price. Forced sale occurs when banks have foreclosed the property, or perhaps due to some other financial reasons. Note that the buyer may not always be aware of the circumstances of the seller, and may not recognize having purchased a forced sale circumstance.

'Auction Sale' is generally a very open and transparent method of selling a property, and is certainly not confidential (assuming that the property is advertised sufficiently and promoted in an open manner). As an auction is public and all parties at the auction compete equally in the bidding, an auction is considered to be the true test of market value in some countries.

19. Special Factor. *'Adjoining Property'* sale is the case where a next door neighbor, or someone who lives within two or three houses away, purchases the property. Adjoining owners usually have a special reason for purchasing the property, and will often pay more than its market value in order to obtain the property. Adjoining owner purchases have to consider very carefully the market value, as mostly they sell for a high price.

A Special Factor may exist when a buyer has a particular reason for buying the property and

may pay extra (above market value) for that purpose. Examples of this may be a buyer who wishes to live next to or near his/her parents, or to be near a particular school or work place. Special Factors exist when a person pays extra, and not when they pay the normal price for properties near a school for instance. (Most people who buy near a school would be aware of the school and properties near the school may be of higher value than farther away from the school, although this is normal value for properties near a school. Special value happens when a person pays over and above the usual price for some particular and individual reason).

20. Actual Sale Price. The main purpose of this whole site visit and interview process is to obtain the truth about the 'Actual Sale Price'. We know that many transactions are not recorded at the real price. It is this 'Actual Sale Price' that has the genuine market value. This is the true price of the property.

Some purchase prices will include taxes or other elements, which are discussed below. However, item 20 is intended to be that amount of money which actually changed hands.

21. Taxes or Other Payments Included. Some buyers would take the responsibility to (or have been required to) pay back taxes or other property related costs that would normally be a seller's expense. Such taxes or payments form part of the actual purchase price as they contribute to the total amount cost for the property to transfer from the seller to the buyer.

In cases when a buyer had paid these taxes or costs, these should be built into the transaction price of the sales analysis, and should accordingly reflect the market value.

The buyer should clear whether the taxes or other payments were extra payments (in addition to the purchase price) or if they were already included in the purchase price shown in the *"Actual Purchase Price"* amount mentioned above (Item 20).

22. Other and Personal Property Included. Occasionally, a sale will include more than just the money as payment, or may include more than just the real estate in the purchase. For example, a sale may sometimes include all the furniture in the house or may include a car or other item that is not considered real estate. In such instances, sale prices may have to be adjusted. Data Collectors ask this question to clarify if any extra factors need to be considered when judging the relevance of the actual sale price and market value.

23. Major Changes. To ensure that the property information forming part of this data is relevant to the purchase price and date, the major changes or expenses (in relation to the property) done by the buyer must be cleared. It may be that the buyer has repainted the house, carried out major maintenance and made additional construction, since the time of purchase. The works and their corresponding approximate cost will help analyze the sale correctly. It must be remembered that the key elements the study is interested in are the Date of Sale, the Actual Sale Price, and the Condition of the Property at that time.

24. Covenants and Restrictions. There may be some specific restrictions on a property that prevent certain works or activities to be done. These reduce the value of the property as they prevent an owner or occupier from doing things that would otherwise be possible. This item relates to specific property, and does not include, for example, height restrictions that might apply to the whole LGU, or part of an LGU.

These restrictions may be an easement for a pipeline, or overhead electricity wires, or perhaps a right of access across the land by or of another party.

ACCOMPLISHING PART 3 OF THE RESIDENTIAL DCS

Individual collector can choose how to frame their survey questions. However, they should be posed in the same manner as follows:

Introduction

At the property site, the data collector/s should introduce themselves by name, and offer the following information. Below is an example of how this interview may progress:

"The Assessors Office is upgrading its records for the whole of _____, and part of the process is collecting and assembling data related to property and real estate transactions. LGU records show that there have been activities with regard to this property and I/we thank you for being available to assist us in this task, which should take perhaps ten to twelve minutes of your time.

I would like to confirm that the information provided by you will form part of an overall picture of transactions in _____ and the Philippines. None of the transaction information will be recorded or used in a manner that will directly affect this particular property or you as buyer. In fact, the buyer's identity and address is not linked directly to the property data when the analysis is completed. The individual value of a property is determined by the Assessor's office based on collective data, and not on individual transactions. As the process and research being undertaken requires collecting accurate price information, it is understood that by separating and not recording seller or buyer related material (other than at time of collection) with regard to any one property, the information to be collected is likely to be more realistic."

(If an advocacy material such as brochures, leaflets or a letter is available)

• "Here is a brochure containing some information about the project. It also contains a recently established telephone number, should you have a query."

• (LGU staff may have prepared a brochure or pamphlet explaining the revision and appraisal process. This may include assessment and RPT explanation as well.)

• "So, for this piece of real estate… may I confirm that the property in the transaction is …….. this address …. and that you are the buyer?

Sample questions for items in Part 3

Question No. 12. Can you advise us whether the property purchased was only the land or does it include the house and other buildings as well?

Question No. 13. When was the actual date of sale-when did you agree to buy the property?

Question No. 14. Can you inform us whether the property was sold by an individual, corporation or real estate developer? Do you happen to know the name of that person or organization?

Question No. 15. Can you advise us whether the property was purchased by an individual, corporation or real estate developer? Can you confirm the name of that buyer or organization? *This is for confirmation of our original records—to make sure we have the correct data attached to the correct property transaction. The information is not related to the individual affairs of that person or organization.* As we are also interested in the gender balance of land and property ownership in the Philippines, do you know if the records submitted to the Registry of Deeds show the buyer/s as a single male or female, or a joint purchase?

Question No. 16. Are you aware if there was any relationship between the seller and the buyer of the property? Did the buyer buy at a special price?

Question No. 17. Insofar as financing is concerned, are you aware if the property was financed by way of a Cash Sale (new loans from banks/ financial institutions), assumption of existing loans or seller financing/installments?

Question No. 18 (a). Can I check whether the property was on the open market, purchased privately, through a broker, developer or other representative? Was the property advertised or auctioned for instance?

Question No. 18 (b). If the property was not on the open market, was the property a forced sale to your knowledge?

Question No. 19. Was there any special factor that encouraged you to buy this particular property rather than another?

Question No. 20. Thinking about the cost of the property, can you please advise what the actual purchase price was, that is, the real amount that was paid for the purchase?

Question No. 21. With regard to the purchase amount of Php_____, was there any tax or other payment incorporated into the amount paid for the property? In other words, was the amount paid by the buyer just for the property itself, or did it include back taxes for example?

Did this amount form part of the purchase price mentioned, or where additional amounts paid on behalf of the seller?

Question No. 22. With regard to the purchase price, did that include an amount for any personal property such as furniture?

Question No. 23. Since the date of ownership or occupation of the property, has there been any changes made? That is, what condition was the property in when purchased?

Question No. 24. As a final question, is there any covenant or restriction on the property that affected the purchase price or use of the property

Thank you very much. That concludes the formal questions for the survey. Do you have any questions or queries on the process or matters discussed? With your permission, we would like to now ask some questions with regard to the land and buildings.

PART 4 OF RESIDENTIAL DCS:
Property Descriptors and Condition Status (General)

> *"As this survey seeks to find out the nature of construction of the main building, and attempts to determine the 'value for money' buyers get when buying property, I/we just need to record some basic information about the buildings on the site. Some of this I have observed already, but I would like to clarify some minor points.*
>
> *Would you be kind enough to assist me in the following……..?"*

At this stage, the data collector should check Part 4 of the Sheet and ask the respondent to answer the items that the former was not able to identify (or judge) regarding the property's condition. In some cases, data gatherers may not need to ask any questions. In other cases, they may need to clarify with the respondent. The guide for the item being queried may be read to the respondent, although collectors are expected to briefly explain the unresolved items to get an appropriate response.

Building Conditions

The condition of the main building (house) is relevant when determining the added value of the improvements (i.e., buildings and other works) to the land itself.

Page 4 of the Real Property Data Collection Sheet comprises a table of elements that can be considered when determining the condition of a particular house (i.e., good, fair or poor). A house comprises many elements, but these are the main items a buyer will consider when deciding to buy a house at a certain purchase price.

The values per square meter of the different qualities of house can be deduced from the resulting information of this table. These values will be applied in conducting a mass appraisal. For this Simulation, the elements listed must be rated in terms of Good, Fair and Poor. The combined result will determine the overall classification of the improvements.

In determining the overall 'Condition', the items on the following pages must be considered. Although many factors influence buyers in their purchasing decisions, the following are considered to be those most likely to influence a buyer insofar as the house/ building is concerned.

ROOF

This relates to the appearance of the roof from the outside. It is the impression ordinary buyers would get when they consider buying the property. 'Roof' is less focused on the roof frame (e.g., timber or steel trusses) as buyers are unlikely to be conscious of the advantages or differences between them.

- Good - roof is straight, appears well-maintained and is new or almost new. A good roof is very functional and would have gutters and downpipes.

- Fair - roof still appears to be waterproof, although it may need attention within the next three to five years.

- Poor - the roof covering has failed or is close to failing, and would need major attention within the next twelve months

WALLS

This relates to the apparent quality and structure of the main walls of the house. Appraisers/assessors should focus on the outside walls, which need to be in good condition for weather protection. (This does not relate to matters of painting or cleaning, but to structure and soundness).

- Good — wall is straight, has no cracks (if it is concrete) or pieces that need patching. or pieces that need patching. A good wall is new or almost new as far as the purpose of the wall is concerned.

- Fair — the wall is structurally sound and straight, may have some minor cracks that require maintenance, may need small patches in some parts, and could have small amounts of moisture damage. In the case of wooden clad walls, most timber would be fixed firmly in place, be straight and some minor sections may suffer from rotting that may need replacement. A 'Fair' wall would only need maintenance and minor repairs to bring it to 'Good' condition. Water would not enter a house with walls in 'fair' condition.

- Poor — parts of the wall are suffering serious deterioration, and may need re-plastering in some parts, (not just a small maintenance patch), and will have cracks and possibly out of its vertical position. Water may seep in to such house.

DOORS AND WINDOWS

Doors/Windows relate to doors and door frames, and window frames and the presence of glazing.

- Good — door or window will have solid frames well-fitted to the wall, doors will fit neatly and windows will be glazed, and be new or almost new. A good door or window that is intended to open, will open and close easily.

- Fair — doors may not fit quite properly, could have loose handles or suffer minor damage. Door frames may not fit exactly to the walls. Fair windows are fully glazed and are weather tight. The frame fits adequately into the walls, although there may be some minor cracks, perhaps some putty missing and separation where the frame joins the walls.

- Poor — doors could be completely missing or windows may have been broken or with some glass missing. It will not be water or weather proof, and are likely to have separated in some way from the wall. Poor windows (if timber) are likely to be suffering from rot or termite damage.

CEILING

- Good — ceilings are fully lined, straight and not suffering from any sagging or separation from the ceiling framing. Good ceilings fit neatly at the wall edges. Good ceilings are new or almost new.

- Fair — ceilings may show evidence of minor movement, but will be complete. Fair ceilings can have small cracks (bigger than pencil line) where they join the walls. Fair ceilings may have suffered minor water damage in the past, although this should not be a problem at the time of purchase.

- Poor — ceilings show evidence of water damage, may have panels or sections missing, and are likely to have cracks where they join the wall. Poor ceilings would likely need replacement in part.

FLOOR CONSTRUCTION

Floor construction relates to the base construction of the building, and to the mode of concrete for most properties. It can be difficult to determine actual floor construction quality, but it must be remembered that this is being viewed from the perspective of the typical buyer.

- Good — floor construction is level, firm and have no cracks, loose surface or evidence of deterioration. Good construction appears new or almost new.

- Fair — floor construction may have minor deterioration, would need some patching or replacement of small areas, and may suffer from minor moisture presence. Fair floor construction would not be readily tiled or re-surfaced with a new floor covering, without some form of rehabilitation to the floor construction.

- Poor — floor construction requires major attention. The floor could be cracked, uneven and have areas requiring re-surfacing. Poor floor construction is likely to show evidence of water damage or moisture staining.

FLOOR SURFACE

Floor surface is the covering of the floor construction. This could be timber, vinyl or tiles of some sort.

- Good — floor covering has no cracks, no broken or lifting joints, stains or other damage. A good floor covering is new or almost new.

- Fair — floor covering is serviceable and does not require replacement or rrepair, although it may have minor cracks or damage. Fair floor covering only needs maintenance to bring it to good standard such as replacing a small number of floor tiles and repairs to joints. Fair floor covering would not need replacement of more than one room.

- Poor — floor covering has substantially deteriorated and obviously needs repair wherein the tiles have to be replaced. Floor tiles have many cracks, would be loose or missing, and joints need to be refilled with cement/grout.

PAINT/FINISHES

Paint finishing refers to the decoration of the external and internal walls, and ceiling surfaces. This does not relate to cleaning or washing of walls, but to the apparent quality of wall finishes.

• Good — all finishes are completed neatly. It has to be attractive and should provide full cover to the surface beneath. A good surface must be new or equal to almost new, and does not require any attention (other than normal cleaning) for three to four years.

• Fair — most surfaces are well covered and does not require immediate attention. Less than half of the surfaces or the whole building may need repainting in the next two to three years. Fair indicates that surfaces are adequate for the time being.

• Poor — building needs to be repainted immediately. In this case, painted or other surfaces would be very weathered or peeling, or portions may be almost non-existent. Colors have probably faded, and the paint provides little or no protection to the surface below.

BATHROOM AND TOILET FACILITIES

'Bathroom' relates to the toilet and bathing facilities at a property. It is difficult to set specific criteria for this category. However:

• Good — at least one tiled bathroom may have hot and must have cold water. It must have a flush toilet, shower and perhaps a bathtub. The room will be of an adequate size and meet the general needs of a family. The toilet cubicle may be separate from the bathroom itself.

• Fair — facilities are adequate, but may have room for improvement through minor renovation. A 'Fair' bathroom will have a shower, but would not have hot water provision. This room is still very functional and comfortable to use. Tiles may need minor attention.

• Poor — toilet may be outside the house and has limited plumbing to the bathroom itself. It may have cold water connected, but many will only have a storage bucket or small tank. Occupants are likely to wash using a bucket.

KITCHEN

Kitchen quality is indicated by facilities that make a kitchen easy to use.

• Good — kitchen will have many cupboards, a large and good quality bench area (would be tiled or have an impervious finish) for food preparation, perhaps built in cooking facilities, and must have a built in sink with water.

•Fair — kitchen will have adequate bench areas (most likely with tiles or impervious surface, although maybe with some minor damage) perhaps limited cupboard space, may have portable cooking items (e.g., movable gas burner). Water and a sink will be fitted.

• Poor — kitchen will have very limited bench space and unlikely to have a built-in sink, although it may have a water tap. There may be no formal cooking facilities, or may be portable. This is most likely a 'dirty kitchen'

OVERALL LAYOUT
Overall layout relates to the design and efficiency of the house for general living purposes. Layout provides some privacy, although it ensures adequate space for meals and family activity.
• Good — layout has a separate entry hall or passageway, rooms are open to common areas, front door and back door are obvious and allows easy ingress and egress from the house. Bathroom and kitchen are separate from other rooms.
• Fair — layout will likely have a separate entry area, with most rooms open from common areas. The kitchen may form part of another room. Bathroom is separate and is part of the main building. The toilet itself is likely to be part of the main building.
• Poor – layout may have the entry straight in to a living room, common areas are small, rooms are open from each other, and kitchen is likely to be part of another room. Bathroom and toilet facilities will probably be at the rear of the house, and may have external access.

In determining the quality of any item, the data collector must ignore his/her own personal preference and view the property through the eyes of the general market. Personal likes and dislikes must be ignored.

As some of these items may not be viewed from the front of the property, a data collector may have to ask the respondent questions regarding these elements.

Many people will likely give a "Fair" response to questions, and this may reflect the actual property. However, data collectors should attempt to refine their categorization of properties such that higher level of properties are shown as 'Good', 'Mid-Range' as 'Fair' and the lower level and least desirable are shown as "Poor". However, the quality of a building for Question 11 would, for example, likely have all new buildings in a subdivision marked as 'Good'. Those in a squatter area would almost certainly be "Poor".

ILLUSTRATIONS

The following illustrations serve as a guide for determining the condition status of 'Good', 'Fair' or 'Poor' insofar as buildings are concerned. These illustrations are to be considered together with the commentary for each item.

ROOF	
ILLUSTRATION	REMARKS
	The roof is in "Good" condition. The roof covering sits neatly on the roof and appears well-fixed. The paint is good whereas the guttering, downpipes and flashing are all in place and well-painted.
	The roof coverings of these two properties are 'Poor'. Although not as bad as some, these roofs are badly corroded. The coverings have to be repainted and some sheets of tin need to be replaced. There are no roof gutters or downpipes.
	The roof in the lower portion of this photograph is 'Fair'. This roof is painted dark red (it is not corroded) although small areas of paint have peeled off. The roof covering needs minor re-fixing of the frame, and will probably need repainting in two to three years. No work is urgent. This roof can be brought to 'Good' condition with little expense.

ROOF	
ILLUSTRATION	REMARKS
	Although this is a different type of construction, some of the flashings are loose and the roof is corroded. The sheet joints are very obvious and has to be fixed. The whole roof needs to be repainted immediately and some sheets have to be replaced. This roof would be classified as 'Poor'.
	Eaves and fascia board form part of the roof component. There is little doubt that the roof item for this house should be marked as 'Poor'.
	The roof oF this house can not be observed. However, the gutter is corroded, the downspouts have detached from the gutter, and parts of the eaves lining are loose and water-stained. The roof of this house would likely be 'Poor'. It must be remembered that the test of 'Good', 'Fair', or 'Poor' is the opinion of an ordinary buyer (with the intent of buying) on a property.

ROOF	
ILLUSTRATION	REMARKS
	This is another case where the roof itself cannot be seen. From this angle, however, the gutter, fascia and eaves are likely to be in 'Poor' condition. This would certainly be the view of any buyer.

WALLS	
ILLUSTRATION	REMARKS
	Despite being water-stained from the rain, there are no cracks on this wall. Although initial examination would show that the wall is in 'Fair' condition as there are no cracks and the structure of the wall appears very sound, the wall of this house is 'Good'. Note that staining and repainting are considered in the category of 'Wall Finishes'. The stains on this house wall are just stains, and not structural form of damage. This is not a damage, but just cosmetic staining due to normal weather.

WALLS

ILLUSTRATION	REMARKS
	The exterior walls of this house are in 'Good' condition. Although sections of the exterior have been repaired, the repairs are complete and appears well done. Thus, the structure is most likely sound. 'Painting/Finishes' would be considered 'Fair' or perhaps even 'Poor' subject to examination of the rest of the house wall surfaces. It is important to separate structure from decoration.
	This house is showing many minor cracks on the wall. A house with such damage would have the wall classified as 'Poor'. In this case, there are no finishes to the exterior; thus, for the exterior, the finishes would be classified as 'zero'. The cracks may only be on the external cement plaster, but most buyers would consider this damage to be significant.
	The second floor of this house is built from timber. Initial examination would show that the timber appears in poor condition. However, the wall material appears to be good although it may need complete and thorough repainting after proper preparation. The wide eaves may have protected the wall from the rain. On the other hand, the exterior surfaces seem to be suffering from minor damages from the weather. This wall could be 'Fair' or 'Good' subject to further observation. However, the finishes would be considered 'Poor'.

WALLS	
ILLUSTRATION	**REMARKS**
	The minor cracks on the surface may indicate some structural problems or that moisture had entered the wall surface. A small area of cracks, as illustrated below, can be classified as 'Fair'. If the cracks extend to a number of walls, then a 'Poor' classification can be considered. What would a buyer think?
	A single small crack on the wall of a house does not indicate any significant problem. If there is no other indication of a problem, this wall would still be classified as 'Good'.
	Poor.

W A L L S

ILLUSTRATION	REMARKS
	At first glance, it would be easy to classify this wall as 'Poor' altough it is most likely 'Fair'. If this wall was plastered, then it would be probably 'Good'. There are no cracks, it is quite straight, and appears to be well-built. The small windows, lack of external plaster, and unfinished roof line are considered together with other factors.
	This small house is under repair. The external wall has been replaced with new timber (cut logs) and are being painted. The roof is considered 'Fair' as it is neat, straight and very clean. However, it has no gutter or downpipes. It is not easy to determine the floor construction quality, but most likely this would be classified as 'Fair'.
	Poor.

WALLS	
ILLUSTRATION	REMARKS
	The external wall of this house has been opened to allow some internal renovation since the property was purchased. At the time of purchase, this house had 'Good' walls, although the roof was 'Poor'. Note that the eaves linings have been repaired since purchase, although not yet painted.
	The internal walls should be examined as their condition would contribute to the overall state of the 'wall'. A deteriorating house such as this is likely to be categorized as 'Poor'. The damage to the door frames would result in the 'Doors/Windows' category being classified as poor. (Note that the ceiling is also poor).

DOORS/WINDOWS

ILLUSTRATION	REMARKS
	These are 'Good' windows. The windows are full glazed, well painted, they open easily and have working locks. The window frames fit neatly to the window opening with no spaces or cracks. (Photo taken from inside a bedroom.)
	These windows are 'Good', although it would first appear to be in 'Fair' condition only. However, these windows have good steel frames set in the concrete wall, have working louvres and are fully glazed. There are no apparent gaps of cracks.
	Here are some windows that are 'Fair' (nearly 'Poor'). These are steel framed, with some missing putty, and one broken pane of glass. The frames themselves appear to be in good working order, although they generally need attention. The rest of the windows of the house are in similar condition.

DOORS/WINDOWS

ILLUSTRATION	REMARKS
	'Poor' windows. These windows have missing glass, and one of the steel frames appears damaged. During the actual inspection of this property, the timber window frame has some termite damage (not able to be seen in photo). The panel on the left is completely boarded up.
	This window is 'Poor' with twisted frame, broken handle, missing putty, and missing glass. In similar cases, if this type of window is the only damaged window and all the rest are in operating condition, it would be appropriate to classify the 'Doors/Windows' as 'Fair'.
	This kind of termite damage indicates problems with at least some of the timber in the house. In this case, doors and windows would be classified as 'Poor'. The buyer must be asked, 'Was the buyer aware of this problem when the property was bought?' and 'Was the buyer aware of this problem when they were purchased?'.

CEILING	
ILLUSTRATION	REMARKS
	The photo shows moisture damage to the ceiling of this house. This kind of damage would need some minor repair and repainting. If the staining is only minor, then this ceiling would be categorized as 'Fair'.
	The moisture damage to this ceiling and the cracks between the ceiling and walls can be seen in most parts of this house. This indicates some problems with the roof or walls. Thus, this ceiling is categorized as 'Poor'.

PAINT & FINISHES

ILLUSTRATION	REMARKS
	This is a very high quality house, but has no external painting. Internal walls had been painted. Classification would be 'Fair'.
	This house wall is very exposed to sun and rain, and the paint has deteriorated. The Paint/Finishes categorization for this house (if the whole house was like this) would be 'Poor'. However, if it appears that this was the only deteriorated wall, then the house can be classified as 'Fair' as far as 'Paint' is concerned.
	This wall finish is 'Poor'. The wall structure initially appears 'Poor'. However, if the only deterioration is in the paint work, then the wall material itself could be probably 'Fair'. The roof is likely 'Fair' or 'Poor' subject to further investigation.

FLOOR SURFACE	
ILLUSTRATION	REMARKS
	Flooring here is very even with no missing grout or broken tiles. This flooring is 'Good'.
	Despite having two slightly different colors in this vinyl floor, the floor surface would be considered 'Good'.
	Small areas of damage to flooring do not cause much of a problem. In this case, there was only a small area of tile missing in one room. Floor surface would be considered 'Good'.

FLOOR SURFACE	
ILLUSTRATION	REMARKS
	This floor has some small pieces of tile missing and some areas have cracks that may be caused by damage or problems with the floor construction. This floor surface would be classified as 'Fair'.
	These ceramic floor tiles are very worn-out, some are even missing in the other rooms. Thus, the floor surface would be considered 'Poor'. A closer observation of this floor did not reveal any cracks, even though the surface was worn-out. Given this was an older house, it was considered that the Floor Structure was classified as 'Good'.

BATHROOM & TOILET	
ILLUSTRATION	REMARKS
	'Good'
	Although nowhere near the same quality as the previous bathroom, this one is still very 'Good'. This bathroom has tiles to the shower and toilet area, hot and cold water, and is very neat.
	A bathroom such as this is 'Fair'. The floor and walls are fully tiled, there is a cold shower, and flush toilet (out of sight). The shower area needs good cleaning, but overall, it is quite adequate. In determining the category of 'Good', 'Fair' or 'Poor', we must disregard matters of cleaning and minor routine maintenance.

KITCHEN	
ILLUSTRATION	REMARKS
	'Good'
	Although not within the same standard as the kitchen shown above, this kitchen can probably be considered as 'Good'. However, the unpainted cupboard doors may lower the classification to 'Fair'. The unpainted cupboards can be considered in classifying 'Paint/Finishes'. Overall, the kitchen can be considered 'Good' or 'Fair'.
	This kitchen is 'Good'. This kitchen has ample cupboards, good bench tops, built-in sink and portable cooking facilities. The cupboards need painting, however, such matter is dealt with under the heading of Paints and Finishes.

KITCHEN	
ILLUSTRATION	REMARKS
	This kitchen, although mostly in good condition, could be classified as 'Good' or 'Fair' subject to other cupboards and to the overall impression of the room. Given that it does not have quite as many cupboards as previously shown and has some minor damage to the tiled bench top (only partially visible), it is most likely 'Fair.
	Perhaps a typical Dirty Kitchen. It has no water connection, cupboards or sink, and has a basic bench area. This is clearly 'Poor'.

Note: Other Factors: consider the photo. A new house is being built in a new subdivision but a squatter-type house is just on the other side of the fence.

APPENDIX 2
COMMERCIAL AND INDUSTRIAL DATA COLLECTION SHEET

Collection of Real Property Transaction Data

The format of the commercial, industrial and retail property sales data collection sheet is generally similar to the residential DCS, with minor changes in some items.

The DCS has 23 Items that need to be completed and provides space for sketches, photos and notes.

> • **Items 1 to 6 (Part 1, Page 1)** comprise information on the FAAS plus the Recorded Sale Price. Section 1 can be completed in the office prior to inspecting the property.

> • **Items 7 to 11 (Part 2, Page 1)** are general descriptions of the property resulting from the field investigation undertaken when the property have been visited.

> • **Items 12 to 23 (Part 3, Page 3)** comprise information obtained from the buyer, broker or other sources with regard to the sale/purchase of the property.

> • **Part 4 (Page 4)** is the table that provides a guide in determining whether the building condition may be considered Good, Fair or Poor.

Following the Data Sheet, which is set out on the next four pages, is an explanation of the questions, and suggestions on how these may best be put to the respondent in order to obtain the most reliable answer possible.

REAL PROPERTY DATA COLLECTION SHEET

(Commercial/Industrial/Retail Sales Analysis)

Item	Property Details
1. Reference Number	PIN (Land):……………………. PIN (Building):………………… TCT Number. ……………… Zoning:………………………...
2. Property Address	Lot/Block Number:…………………. Street:…………………………. Building Number:……………Floor level…………. Building Name ……………………….. Barangay: …………………………. District:………………………….
3. Land Area	Area:………….. Sq Meters
4. Land Value	LGU Unit Value: ……………….. LGU Market Value : ……………. Adjusted? ☐Yes ☐No

5. Building (from PRF)
 	
 Additional notes or sketch may be placed on the rear of this sheet.
	Year built:……….. ………. No. of storeys:………………….
	 Building type: ……………. Building classification:……………
	 Other Extra Items:☐ Substantial Fence ☐Other Specify………………
	
	 Component Area
	 ……………………………………… ………………..
	 ……………………………………… ………………..
	 ……………………………………… ……………….
	 ……………………………………… ………………..
	                                      Total :…………………….
	  LGU Market Value of Building: …………..

6. Recorded Sale Price	Php ………………….
7. General Description of the Location of the Property	General Neighborhood:…………………………………….. Width of street/road: ☐wide ☐standard ☐narrow ☐alley/walkway Road Surface ☐Natural ☐Gravel ☐Paved ☐Formed drainage Location: ☐ Corner ☐ Along the road ☐Interior lot Schools: ……...m Shops: ……...m Public Transport: ……….m Landmarks within approximately 200m.:…………. Other factors that add or reduce value:………………………………..

8. Topography and Land Shape	Terrain: ☐ Flat ☐ Sloping
	            ☐ Below street level 0.5m ☐ Below street level ≥0.5m
	            ☐At street level ☐ Above street level
	            ☐ Above street level ≥0.5m
	 Land Shape: ☐ Rectangular ☐ Triangular ☐ L-shaped
	            ☐ Others Please specify:……………. ……………….. ……………
	 ……………………………………………………………….
	 Road frontage of the property: ☐Wide ☐Standard ☐Narrow ☐Nil

9. Dominant Actual Use at time of transaction	☐Residential ☐Commercial Office ☐Retail ☐Industrial ☐Agricultural ☐Mixed ☐Others Please specify over page
10. Services Available	☐ Electricity ☐Water ☐ Sewerage ☐ Septic ☐Telephone ☐ Others. Please specify: …………………….
11. Building and other improvements	General Condition: ☐ Good ☐ Fair ☐Poor (See page 4.)

PART 1 (rows 1–6), **PART 2** (rows 7–11)

Remarks

……………………………………………………………………………………………………

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……………………………………………………………………………………………………

…………………………………………………………………………………………………..

…………………………………………………………………………………………………..

North
Plan

PART 3

12. Property Sold	☐ Lot only ☐ Building and Lot
13. Date of Sale	Recorded Date of Sale: …..../…… . (mm/ yy) Actual Date of Sale: ……/……. (mm/ yy) (ie.. when deal was made, price agreed)
14. Vendor	☐ Individual ☐ Corporation ☐ Real Estate Developer Name: ………………………………………………………………
15. Purchaser	☐ Individual ☐Corporation ☐Real Estate Developer ☐M ☐F ☐Joint Name:……………………………………………
16. Related Parties	Arms Length? : ☐Yes ☐No ☐Family ☐Friends ☐Employment ☐Other
17. Type of Sale	☐Cash Sale ☐New loans from banks/ financial institutions ☐Assumption of existing loans ☐ Vendor financing/installment
18. Sale Category	Open market ☐Yes ☐ No Forced sale ☐Yes ☐ No Advertised ☐Yes ☐ No Auction sale ☐Yes ☐ No ☐ Broker Name: _____ ☐ Others please specify: _____
19. Special Factor	☐ Adjoining property ………………… ☐ Other…………..
20. Actual Sale Price	Php_____
21. Status of Occupation	☐ Owner occupied ………………… ☐ Leased……….
22. Actual Rental	Total Rent at Sale: Php_____ per annum ☐ Gross ☐ Net *Specify details in Part 4 if available*
23 Taxes or other payments included, or made by purchaser.	Type of Tax Amount Extra or Included? _____ _____ _____ _____ _____ _____ _____ _____ _____
24 Personal property (e.g. furniture, machinery and equipment etc.) included in the sale price?	Type of Property Value _____ _____ _____ _____ _____ _____
25 Major changes or additions made in the property after the sale?	Changes Cost _____ _____ _____ _____ _____ _____
26. Covenants/ restrictions existing on the property?	Covenants/Restrictions _____

Note: Please attach Property Record Form, Map & Photograph of Building if Available

Interviewer Name & Sign _____ Date accomplished: _____

Printed Name Interviewee: _____ Contact Details: _____

Item	Good(3 points)	Fair (2points)	Poor (1 point)	Nil (0 point)
Roof				
Walls/Partitions				
Windows/Natural or Light				
Ceiling Height and Finishes				
Artificial Light				
Floor Construction				
Floor Surface				
Paint/finishes				
Amenities				
Overall Layout and flexibility of use	6	4	1	
Total	Max 33	Max 22	Max 10	
Grand Total		Result = 26-33 16-25 0-15 ☐ Good ☐ Fair ☐ Poor		

PART 4

If Single Tenant Occupation:

Tenancy Details					
Tenant Name		Business Name			
Use			Area Leased m2		
Rent		Week ☐	Month ☐	Year ☐	/sq meter ☐
Date Lease Commenced		Date Current Rent Set			
Gross		Net			
Tenant Works	Php				
Additional Items (e.g. parking)					

Multiple Tenants Rent Schedule

Item No	Location	Tenant Name	Business Name	Use	Area M2	Rent	Week/pcm/an-num/m2	Date Com-menced	Date Current Rent Set	Gross or Net	Tenant Works Php

Notes

PART 1 OF COMMERCIAL & INDUSTRIAL DCS:
Materials held by LGU

Part 1 relates mostly to information held by the LGU, and should be completed in the office before going to data collection. The information must be recorded correctly as it may affect the results of the analysis, and consequently alter the value levels for the valuation.

1. **Reference Number.** PIN refers to Property Identification Number for each Land and Building. It is located in the upper right hand most of the Tax Declaration.

TCT refers to the Transfer Certificate of Title number which can be found in Transfer documents from the Records Division and Registry of Deeds.

Zoning is identified on the maps at the LGU. The property must be located correctly on the map before the Zoning is located. Zoning dictates potential land use and has a substantial effect on value.

2. Property Address. This information relates to the location of the property as may be identified both on Tax Maps or plans, and TMCR of each section maps. The information here will allow this property to be identified both in the office and in the field.

3. Land Area. Land area is obtained from the FAAS and is a key element in value.

4. Land Value. The *'LGU Unit Value'* is the *'Base Unit Market Value'* on a street by street basis obtained from the FAAS/Tax Declaration Form. It is the current level of value (per square meter) applicable to properties in this location as of the last revision. This is not the current market value, which will be determined when the data being collected is analyzed.

The LGU Market Value is the total actual value deemed to apply to the land component of the overall property. This is the total amount obtained by multiplying the land area by the unit value if there are no adjustments applied, or the adjusted total market value if certain adjustments are applied.

'Adjusted' relates to the LGU Unit Value as applied to the particular property. Some properties in any particular area have individual advantages or detriments (such as low lying or elevated, or maybe a drain) or a factor that can affect value not applicable to all properties in this location. In a Mass Appraisal, the general level of values (LGU Unit Value) is applied across a class of property. An individual factor is then introduced to adjust the LGU Unit Value and reflect the advantage or detriment. The LGU Total Market Value is the LGU Unit value multiplied by the Adjustment Factor, then multiplied by the number of square meters of land.

5. Building. Information for this part of the Data Sheet is obtained from the FAAS which briefly describes the buildings and any other structural improvements in the property. This material helps in analyzing sales data and in allocating values for various buildings (or parts of buildings) or constructions. This information will be checked during ocular inspection of the property. Variations will be recorded on Page 2 of the Data Collection Sheet.

6. Recorded Sale Price. The Recorded Sale Price is the official transaction price recorded at the Assessment Records Division of the assessor's office and Registry of Deeds. This may, or may not, be the actual and true sale price.

PART 2 OF COMMERCIAL & INDUSTRIAL DCS: Site Descriptors

As with the Residential, the answers to the questions on Part 2 of the Real Property Data Collection Sheet are recorded by the data collector during the identification and ocular inspection of the locational aspects of properties. Hence, the questions about location, road, etc., are relevant.

7. General Description. General Neighborhood refers to a general location where the property is located, and may be considered to be that area within 200m of the property. This is the immediate area that owners or occupiers would be aware of when they are at the property. Typical answers could be 'Prime', 'Secondary' or 'Fringe' Commercial or Retail Area. The terminology 1st class, 2nd class, etc., is also acceptable.

• Width of street/road: This considers the effect of the road on the property. Wide or narrow road, gravel surface, etc., can affect the a person's impression of a property, which may also affect value.

• Road width relates to the general width of roads in the LGU. Roads need not be measured, but can be estimated by comparing its road width with others in the vicinity. For example, many roads in the CBD may be a standard width but narrow compared to roads in commercial areas outside of the CBD. This road would be recorded as 'Standard', as it is standard for such an area.

• Road surface relates to the finished surface of the road. 'Natural' means just plain earth surface. 'Gravel' means a surface that has stones or some form of covering. 'Paved' means finished surface of concrete or asphalt. 'Gutters and drains' indicate a formal concrete or stone border to the road edge, with some form of constructed drainage to take away the rainwater. There is no entry for footpath.

• Schools and Shops: Not as critical as commercial property in CBD but may be relevant in outer areas.

• Transport: Availability of transport is critical as proximity to a major public transport route is likely to be a major factor affecting value.

• Landmarks within 200m refer to significant features that might influence value, or be obvious from the property. This could be a church, mall, police station, park, river or any such item that might influence a person when purchasing.

• Other factors that would add or reduce value: There may be some other special local influences that affects a property. These could be the presence of squatters, a new shopping center being developed in the vicinity or new road construction. This question allows the data collector to add any item that has not yet been included but may be significant. This does not relate to the property itself, but to the locality.

8. Topography and Land Shape. Not only does the size of the land affect value, but also the shape and slope of the land. Land that is flat or slightly above road level often has a higher value than sloping land or land below road level.

The terms 'Flat' and 'Sloping' refer to the general surface of the land itself. Below each of the 'Flat' and 'Sloping' headings are further refinements for each of Flat and Sloping. These allow the land to be recorded with regard to the roadway or footpath at the front.

For example, a Flat site could be *'Below street level'*, meaning that the land is flat and basically level, but is lower than street level and may need some filling to bring the land to normal road level. This is common in some subdivisions, where land is generally low lying. If land is only slightly below road level, and would not require special attention prior to construction or is not seen as a problem, then the land would be considered to be "At street level".

'Flat above street level' would indicate that the land is elevated and rises significantly above the roadway, sufficient to influence a buyer to pay a different amount to an ordinary flat block.

Sloping blocks are those that rise or fall almost continuously from street level. Sloping above street level indicates that the land rises from the footpath or from the front of the property. Sloping below street levels indicates that the land falls away from the street and towards the rear.

Shape affects value as well. A regular shaped rectangular parcel is considered the best shape for land, as this can be efficiently built upon. An irregularly shaped land has often lesser value than a regularly shaped one.

'Regular' means a rectangular shape that is normally twice as long as it is wide. This is commonly the approximate shape of blocks of land, and, except for retail property, is often the most valuable shape. Retail property has more value if it has a wider frontage which can be utilized for display

or advertising purposes. The other shapes indicated are not expected to be accurately judged, but can be estimated based on observation. Remember that in many cases, the LGU has a plan of the land. Thus, when the shape cannot be verified on site, it may be determined in the office.

Road Frontage indicates the frontage of the land to the road, and is compared with the typical frontage of properties in this area. What may be a wide frontage in one part of an LGU may be a narrow frontage in another. This is a local factor in relation to the normal frontages in the vicinity. If most blocks in a location have 15m frontages and the sale property has a 10m frontage, then the frontage would be 'Narrow'. In another location in the LGU, most blocks may have 10m frontages; thus, if the sale property had a 10m frontage, then the classification would be 'Standard'.

Some properties may have no frontage to a road, and this should be indicated as 'Nil'. In such cases, an explanatory note should be written on page 2, as a 'Nil' frontage could have a serious influence on value.

9. Land Use. Although most properties in this data collection exercise will be Commercial, there may be a number that are not. Item 9 requires the predominant use of the property to be recorded. For example, the property may incorporate a number of differing use including industrial, residential, office, and /or retail. Other special uses such as clinics, colleges, hotels, etc., may also be present.

Note that this question relates to actual land use at time of purchase, and not the official zoning from a Town Planning perspective.

10. Services Available. Services are those normal connections that are required to fully utilize a property. These comprise water, electricity, sewer connection, perhaps drainage (in some countries there is piped gas as well) and telephone. For most properties where there is a building constructed, these will already be connected. In new developments, particularly where the transaction being examined is vacant land, the service is not likely to be connected to the property, but will be available in the street at the front. Item 10 indicates the availability of a service and not the connection.

11. Building Condition. This item relates to the overall condition of the building, mostly from a maintenance and condition perspective. One of the key factors in a buyers decision to buy a property (or the purchase price for the property) is the condition of the buildings (if any) and how much would have to be spent to bring that building up to a good standard. If a building is in poor condition, then a buyer is likely to pay less than they would for a good building, although what the buyer pays is still 'market value' as the purchase price reflects the market for that quality (i.e., poor) property or building.

See additional notes in this guide for instruction on completing the "Condition Table" on page 309.

> *Remember that identification is a factor that can affect the purchase price/market value. If there are any factors or matters that would affect market value and they are not provided for on the first page of the Data Sheet, then these should be noted on page 2.*

PART 3 OF COMMERCIAL & INDUSTRIAL DCS: Interview

Part 3 of the Real Property Data Collection Sheet comprises the questions for the buyer, seller, broker, developer or other person that can provide the required information to complete the form.

The answers to these items should all be provided by the interviewee. During the interview, using the word 'you' must be avoided to separate, in the mind of the interviewee (particularly when interviewing the buyer), the transaction from the person. The LGU is interested in the real estate issue, not the affairs of the buyer. An interviewee is more likely to provide reliable answers if s/he realizes that the questions are about the property transaction and not about their own affairs. Hence a question could be, "When was the property purchased?", rather than, "When did you purchase the property?".

Commercial sales are generally less prevalent than residential with many commercial sales incorporating multiple uses and being leased to generate a rental return. The sales details are often complex and require a significant amount of data. To facilitate the process, a formal appointment should be arranged and interview questions should be provided beforehand to ensure that all information is available during interview. In many cases, the interview with the Commercial buyer or seller may not be at the subject property; thus, permission may be required to inspect the property concerned, which can be arranged at this meeting.

12. Property Sold. This item simply clarifies the actual item purchased and should not be a difficult question to answer. In most cases, the data collector would already know the property purchased, as this information will be on the FAAS. The data collector should just mark the Sheet where appropriate. In cases where there is a discrepancy, the data collector should clarify the actual subject of the sale, and then record this with appropriate explanation on Page 2 of the Sheet.

13. Date of Sale. The Date of Sale a very significant item. This sets the date when the transaction was done and when that purchase price/level of value applied. For purposes of this Sheet, we are collecting information on 'Month' and 'Year' as the actual day when the transaction done is not significant at this stage of valuation and data analysis.

The 'Recorded Date of Sale' must be distinguished from the 'Actual Date of Sale'. The former is the date shown at the Registry of Deeds when the contract was entered officially, and may

or may not be close to the Actual Date. On the other hand, Actual Date is the date when the two parties (seller and buyer) agreed on the purchase price and to proceed with an actual sale.

Recorded Date of Sale is often many months later after the Actual Date. This may be due to the delays in the preparation of contracts and in the lodgement of documents, financing agreement or other matters that takes time to resolve after the price has been agreed on.

The 'Actual Date of Sale' will be the same or prior to the Recorded Date of Sale.

14. Seller. This simply confirms the name and nature of the seller for the data collector's reference. This question is included to provide a guide on the reliability of recorded information, with the expectation that sales from corporations or developers are more likely to have the true purchase price shown on the Deed of Sale. This is also a question that an interviewee should be comfortable in answering. Some respondents may not recall the actual name of the seller, in which case the 'Name' can be left blank.

15. Buyer. This simply confirms the name and the status of the buyer.

16. Relationship. A true market value sale happens when both parties to the transactions have equal capacity to undertake the transaction and are under no special pressure to sell or buy.

Many sales that take place are not at 'arms-length'; thus, the sale may not represent a true or unaffected market value. Examples of sales that are not at 'arms-length' may be a sale between family members, two companies within the same parent group, or an employer and employee where the property transaction forms part of another arrangement. As such, the data collector must know and consider this kind of transactions carefully before including them as examples of market value. In the case of commercial property, links between companies are not uncommon, and if any link exists, the transaction should not be considered fully reliable as evidence of market value.

17. Type of Sale. A *'Cash Sale'* is a normal transaction whereby the seller receives the full payment from the buyer. Most Cash Sale transactions will be by way of a Managers Cheque/Bank Cheque or perhaps an electronic transfer. There may be a separate payment as part of the cash sale where the buyer puts in a share of the purchase price with a separate cheque; but effectively, the seller receives a full payment when the property changes hands. The cash sale may include borrowings from a bank or reputable financial institution.

'Assumption of Existing Loan' is where a buyer takes over the loan responsibility and obligations of a seller. The buyer is expected to pay the seller a certain amount of cash and also assume the latter's debt to the bank. The total amount of the assumed debt and the cash payment make up the full purchase price, and can be the market value.

Assuming an existing loan can sometimes lead to a higher price as it is easy for a buyer to obtain the property (they do not have to worry about getting their own loan). At times, it means that the seller was desperate to sell, and may have sold out cheaply. Knowing this loan position can explain inconsistencies in sale price levels.

'Seller Financing' happens when the seller (often a developer) helps finance part or all of the purchase. The buyer pays interest to the seller just like in any normal loan. However, this practice often leads to slightly higher market value prices as the buyer often provides the money under generous terms in order to sell the property. Also, in such cases, the seller is not constrained by normal banking policies or restrictions and can lend as much as they like to whomever they choose.

18. Sale Category. The *'Sale Category'* item is a verification of Item 16 and confirms that the property was an open market transaction. Some buyers may not know if the sale was a forced sale (as this is an issue that really affects the seller).

'Open Market' refers to an arms-length transaction wherein any person with the capacity to purchase the property can do so.

'Advertised' refers to the property being promoted to the public in a normal manner, whereby the sale is either advertised in the mass media, by a sign on the property, on a brokers list, in a brokers window, etc.

'Non Open Market' refers to a sale that was not promoted in the normal manner, and thus, may have only been available to a limited number of buyers (thereby reducing the likelihood of obtaining the best price). Perhaps the property was sold before being advertised or the sellers did not want others to know the property was on the market.

'Forced Sale' is a transaction wherein the seller is under financial pressure to sell quickly. As such the need to sell quickly will outweigh the need to obtain the best price. Forced sale occurs when banks have taken possession of a property, perhaps when someone is ill and has to sell, or a business is failing. Note that the buyer may not always be aware of the circumstances of the seller, and may not recognize having purchased a forced sale circumstance.

'Auction Sale' is generally a very open and transparent method of selling a property, and is certainly not confidential (assuming that the property is advertised sufficiently and promoted in an open manner). As an auction is public and all parties at the auction compete equally in the bidding, an auction is considered to be the true test of market value in some countries.

19. Special Factor. A Special Factor may exist when a buyer has a particular reason for buying a property, and may pay extra (above market value) for that reason. Examples of this may be a

buyer who wishes to exclude a competitor who may reduce the value of their business. Special Factors exist when a person pays over market price for extraordinary reasons.

'Adjoining Property' sale happens when an owner of an adjoining land or building may perceive some benefits from the combined ownership. Adjoining owners usually have a special reason for purchasing the property, and will often pay more than market value in order to obtain the property. Adjoining Owner purchases have to be considered very carefully before being regarded as market value, as they are mostly high sales, and this would certainly be the case where commercial and industrial users buy adjoining or nearby properties. The business advantage and operational savings would likely be substantial, and most would at least be partially reflected in the purchase price.

20. Actual Sale Price. The main purpose of this whole site visit and interview process is to obtain the truth as to the 'Actual Sale Price'. We know that many transactions are not recorded at their real price, and it is this 'Actual Sale Price' that indicates the genuine market value. This is the true price of the property.

Some purchase prices will include taxes or other elements, which are discussed below. However, item 20 is intended to be that amount of money which actually changed hands.

21. Status of Occupation. Commercial and retail properties are often purchased to gain a return from the rentals that a property can generate. Occupation may be by the owner/buyer, but also by a tenant.

22. Actual Rent. Information on the rentals passing on sale is critical in the data collection process when a property is leased. The returns that the property was generating at the date of sale can be derived if the passing rent is known. When available, a detailed breakdown of the rental details should be recorded, complete with details of the required rental data to assist in the determination of value (see notes on Part 4).

The rental data can be sourced primarily from either the buyer or seller. However, direct interview with the tenants on site is often a very useful alternative. Tenants have detailed knowledge of the operation and condition of the property being considered.

23. Taxes or Other Payments Included. Some buyers will take the responsibility to (or have been required to) pay back taxes or other property related costs that would normally be a seller's expense. Such taxes or payments form part of the actual purchase price, as they contribute to the total amount that has changed hands in order for the property to transfer from the seller to the buyer. These may be substantial in cases of commercial properties. When an incoming buyer also takes over the business on the site, and has paid extra for the business, the property transaction must be separated from the business purchase transaction. This is often not possible; thus, the sale can not be considered as evidence.

In cases when a buyer had paid these taxes or costs, these should be built into the transaction price of the sales analysis, and should accordingly reflect its market value.

The buyer should clarify whether in the addition to the purchase price, the taxes or other payments were extra payments or were already included in the purchase price shown in the "Actual Purchase price" amount mentioned above (Item 20).

24. Personal and Other Property Included. Occasionally, a sale will include more than just the money as payment, or may include more than just the real estate in the purchase. For example, a sale might sometimes include all the furniture and equipment in an office, which is not considered real estate. In such instances, sale price may need to be adjusted. Data Collectors ask this question to clarify if any extra factors need to be considered when judging the relevance of the actual sale price and market value.

25. Major Changes. To ensure that the property information forming part of this study is relevant to the purchase price and date, the major changes or expenses (in relation to the property) done by the buyer must be cleared. It could be that the buyer has repainted the building, carried out major maintenance, or constructed an addition, etc., since the purchase. The works and their corresponding approximate cost will help analyze the sale correctly. It must be remembered that the key elements the study is interested in are the Date of Sale, the Actual Sale Price and the Condition of the property at that time.

26. Covenants and Restrictions. There may be some specific restrictions on a property that prevents certain works or activities to be done. These reduce the value of the property as they prevent an owner or occupier from doing things that would otherwise be possible. This item relates to the specific property, and does not include, for example, height restrictions that might apply across a whole LGU, or part of an LGU.

These restrictions may be an easement for a pipeline, or overhead electricity wires, or perhaps a right of access across the land by or of another party.

The status condition of the main building is relevant when determining the value of the improvements (i.e., buildings and other works) to the land itself.

PART 4 OF COMMERCIAL & INDUSTRIAL DCS:

Building Descriptors

Part 4 of the Real Property Data Collection Sheet comprises a table of elements that can be considered when determining the condition of a particular house (i.e., good, fair or poor). A building comprises many elements, but the descriptors discussed in the following section are the buyers' main considerations when buying a property at a certain purchase price.

The values per square meter of the different qualities of building can be deduced from the resulting information of this table. Accordingly, these values will be applied in conducting a mass appraisal. For this Simulation, the elements listed need to be rated in terms of Good, Fair and Poor. The combined result will determine the overall classification of the improvements.

The information being collected is relevant to the date of sale, and not necessarily on the date of inspection. Elements to consider vary with the property type and use, although the guidelines below will help appraisers in establishing a consensus on the condition of non-residential buildings.

ROOF

This relates an ordinary buyer's impression of the roof's outside appearance when considering buying a property.

- Good — roof is straight, appears well maintained and is new or almost new.

- Fair — roof still appears to be waterproof, although it may need attention within the next three to five years.

- Poor — roof covering has failed (or is close to failing) and needs major attention within the next 12 months.

Illustration	Remarks
	The roof of this two-storey shop is viewed from the building across the road. It is definitely considered 'Poor' as water can enter into the upper level of the building.
	This building's covering has corroded, although still waterproof. In isolation, this may have been classified as 'fair'. However, spouting is heavily corroded and downpipes are missing. Thus, this roof is classified as 'poor'.

The roof in this image is viewed from the underside. The roof frame appears well aligned, and the covering of corrugated galvanized iron shows no signs of rust or other damage. This roof would be 'Fair' or 'Good' subject to examination of the rest of the warehouse.

The roofs shown here are only three years old and are clearly in 'Good' condition. Roof includes items of rain water goods such as flashings, spouting and downpipes.

WALLS/ PARTITIONS

This relates to the apparent quality and structure of the main walls of the building. The focus should be on the outside walls, which need to be in good order for weather protection. (This does not relate to matters of painting or cleaning, but to structure and soundness).

• Good — wall is straight, has no cracks (if it is concrete) or pieces that need patching. A good wall is new or almost new as far as the purpose of the wall is concerned.

• Fair — wall is structurally sound and straight. It may have some minor cracks that require maintenance or small patches on some parts, and could have small amounts of moisture damage. In the case of wooden clad walls, most timber would be straight and fixed firmly in place. Very minor sections may be suffering from rotting or may need to be replaced. A 'Fair' The wall would only need maintenance and minor repairs to bring it to 'Good' condition. Water would not enter into a building with walls in 'fair' condition.

• Poor — parts of the wall are seriously deteriorating and needs re-plastering (not just a small maintenance patch. The walls will have cracks and may not be vertically aligned. Water might might seep in a house with walls in 'poor' condition.

Illustration	Remarks
	This wall is substantially damaged with major breaks and cracks in the concrete. This wall is clearly in 'Poor' condition.
	Minor cracks on the cement plaster of the wall's surface is not too critical and can be easily repaired (this wall is being repaired when the photo was taken). This wall would be classified as 'Fair'.
	These walls are considered 'Fair' although minor cracks can be seen. The main problem in this structure is the lack of repairs and maintenance. Some minor re surfacing and painting would bring this wall back to its good quality.
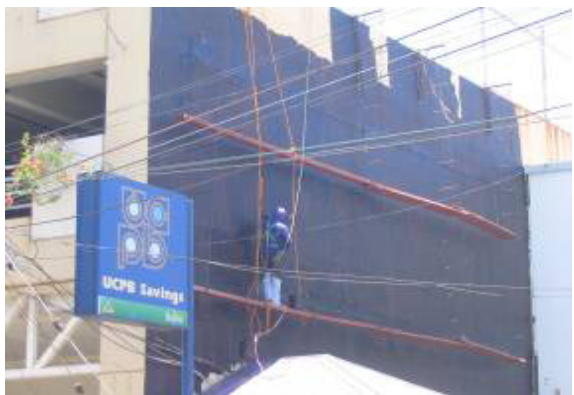
	Repairs by way of bitumen coating (waterproofing) to a highly exposed wall will help maintain the structure.
	This building is several years old, yet the walls show little signs of deterioration. This wall would be classified as 'good'.

WINDOWS/ NATURAL LIGHT

Windows relate to frames and glazing, and natural lighting. The availability of natural light for the commercial space can significantly add to the quality and use of the available space. In a retail space display, windows are critical, with large glazed areas usually preferred. Unglazed areas can also be utilized provided shutter security is also available.

Illustration	Remarks
	The windows on the upper level offices are intact and provide adequate natural light; thus, would be considered good.

Window frames are damaged, glass panes are missing and the whole window panel requires repair and repainting. Although they provide good light, these windows would be classified as 'Poor' (with some easy repairs they can be categorized back to 'Fair' condition).

These windows are 'Fair', although closer examination might see them classified as 'Good".

ARTIFICIAL LIGHTING

Quality and adequacy of the available artificial lighting to support the function of the use. Lighting for an office or retail purpose may be required to be superior to a storage use

- Good — well-lit space facilitating product display or office work. (e.g., quality fluorescent fittings possible inset).

- Fair — adequate lighting for functions, but may require additional back-up. It is part fluorescent and incandescent and would probably be exposed.

- Poor — barely adequate lighting for working requirements with small number of incandescent lights.

Illustration	Remarks
	This building foyer has many recessed lights on the ceiling and would be considered 'Good'. This type of lighting can be expensive to operate as recessed lights often do not provide a wide arc of lighting. Hence, additional lights of the same kind are required. White reflective surfaces can help lighting efficiency.
	This arcade has good natural light when the sun is overhead. Adjoining buildings shadow the skylights for much of the day, however. Artificial lighting here is at best only 'Fair'. At night, this arcade is dimly lit and wall surfaces have a matte-textured finish and do not reflect much light.

CEILING HEIGHTS AND FINISHES

- Good — ceilings are fully lined, straight and not suffering from any sagging or separation from the ceiling framing. Good ceilings fit neatly at the wall edges and give sufficient height to create open work spaces. Good ceilings are new or almost new.

- Fair — ceilings show evidence of minor movement, but will still be complete. Fair ceilings give adequate height to create open work spaces. Fair ceilings may have suffered minor water damage in the past, although this should not be a problem at the time of purchase.

- Poor — ceilings show evidence of water damage, may have panels or sections missing, and are likely to have cracks where they join the wall. Poor ceilings would likely need replacement in part.

Illustration	Remarks
	The ceilings in this office were never installed. This office functions with all the service ducting and pipes exposed; thus, provides a noisy atmosphere and poor artificial lighting. This is worse than 'Poor'.

FLOOR CONSTRUCTION

Floor construction relates to the base construction of the building, and for many properties, this will be made of concrete. Determining the actual floor construction can be difficult, but appraisers must remember that this is being viewed from the perspective of the typical buyer.

• Good — floor construction is level, firm and has no cracks, loose surface or evidence of deterioration. Good construction appears new or almost new. Good floors shall be of reinforced concrete construction at all levels.

• Fair — floor construction may have minor deterioration, could need some patching or replacement in some areas, and may suffer from minor moisture presence. Fair floor construction would not be readily tiled or re-surfaced with a new floor covering without some form of rehabilitation. Construction may be a mix of concrete and timber on upper levels.

• Poor — floor construction requires major attention. The floor may be cracked, uneven and have areas requiring re-surfacing. Poor floor construction is likely to show evidence of water damage or moisture staining. Upper levels may be of timber construction or poor concrete. Timber floors are likely to have split boards and may sag.

FLOOR SURFACE

Floor surface is the covering of floor construction. Floor surface criteria and suitability will vary depending on use. In factories, a suitable floor surface may just be finished concrete, although this may be unsuitable in a retail or office environment. Floor surface could be timber, vinyl or tiles of some sort, and possibly carpet.

- Good — floor covering has no cracks, no broken or lifting joints, or stains or other damage. A good floor covering is new or equal to nearly new.

- Fair — although floor covering may have minor cracks or damage, it is still serviceable and currently does not need to be replaced or repaired. Fair floor covering needs maintenance to bring it to good standard. Some floor tiles may need to be replaced and some joints repaired. Fair floor covering would not require replacement of more than about 10% of the surface.

- Poor — floor covering has substantially deteriorated and in obvious need of repair. Many cracked, loose or missing tiles have to be replaced, and the joints have to be refilled with cement.

Illustration	Remarks
	Polished floor tiles and matching wall trim indicate high quality floor surface. This floor surface is clearly 'Good' although not all good surfaces will be of this high standard.
	Floor covering of ceramic tiles has cracked tiles, and some pieces missing. This can only be regarded as 'Fair', whether in an office or retail situation. Ceramic tiles are unlikely to be used in an industrial or warehouse circumstances, unless in the food production industry where ability to keep floors clean is essential.

This is a floor surface (partly repaired) within a large warehouse. Surfaces that are breaking up or uneven contribute to dust and difficulty of fork-lift operation. This floor is 'Poor'.

PAINT/ FINISHES

Paint finishing refers to the decoration of the external walls, internal walls, and ceiling surfaces. This does not relate to cleaning or washing of walls, but to the apparent quality of wall finishes.

• Good — finishes are complete and neat, attractive, and provide full cover to the surface beneath. A good surface must be new or almost new, and does not require attention (other than normal cleaning) in the next two to three years.

• Fair — most surfaces are well covered, and most of the surfaces do not require immediate attention. Less than half the surfaces might require attention (repainting) in the next one to two years, or perhaps the whole building in two to three years time.

• Poor — building has to be repainted immediately. Painted and other surfaces would be very weathered or peeling, and paint in some portions may even be non-existent. Colors have probably faded, and the paint provides little or no protection to the surface below.

Illustration	Remarks
	Clean and crisp exterior painting. Although there are some minor stains on the exterior edge of the balcony, these are not significant in the overall status of the exterior. A good scrub may eliminate these stains. Paint classification is 'Good'.

Illustration	Remarks
	This building may have a 'Good' covering of paint and may have surfaces that seem sound. However, rust stains and various blemishes are visible. Thus, this would be considered 'Fair'.
	This building is obviously old but the structure appears to be sound. There is little paint on the upper areas of the wall, the lower level is badly stained, and clearly would be classified as 'Poor'. Damaged windows and vegetation on the roof provide an indication of overall condition ('Fair' at very best).

AMENITIES

Amenities refer to the provision of 'comfort rooms' and other facilities incorporated in the building to service the occupants. The adequacy of amenities will vary depending on the scale of the building. Larger buildings will require separate Male and Female toilets whereas small properties or tenancies can be adequately serviced by joint facilities.

The overall quality for the function should be assessed.

Illustration	Remarks
	These 'comfort room' facilities provide adequate urinals and toilet cubicles, together with hand-basins for the male population of a large office. Female facilities should be of similar quality. Building and health codes provide minimum requirements for toilets and washing, although these are often overlooked by building owners and employers.

Overall Layout and Flexibility

Overall layout relates to the design and efficiency of the building for its use. Layout provides for an effective use of space, and will have separate criteria for the different uses of retail, commercial office or industrial.

- Good — layout maximizes the potential of the location, offers separate entries or passageways if for multiple occupancy, and allows easy ingress and egress from the building. Amenities are well located to service the occupants. In retail or industrial areas, this can mean lack of columns to interrupt working, selling or storage space and machinery location flexibility.

- Fair — layout will likely have joint entry areas giving less efficiency to use available space (e.g., long and wide corridors in office buildings). Amenities may be isolated distant from the main areas. Floor surfaces may be stepped.

- Poor — layout may exhibit poor function with large underutilized areas, disjointed internal arrangements (e.g., tenants occupying a number of small rooms rather than a large functional space). From an industrial perspective, this could include multi-stepped floor surfaces, many internal columns or restricted work spaces, perhaps badly placed internal drains or any design factor that inhibits efficient and flexible use of the building.

Total	
	Result = Good 26-33
Grand Total	Fair 16-25
	Poor 0-15

In determining the quality of any item, the data collector must ignore his/her own personal preference and view the property through the eyes of a general market. Personal likes and dislikes must be ignored.

As some of these items may not be viewed from the front of the property, a data collector may have to ask the respondent questions with regard to these elements.

Most people will likely give a "Fair" response to questions which may reflect the actual property. However, collectors should attempt to refine the categorization of properties such that the higher level of properties are shown as "Good", mid range as "Fair" and the lower level and least desirable, "Poor".

TENANCY DETAILS

21 and 22 of Part 3 of the sheet includes the requirements for determining the type of occupant (i.e., owner occupied or leased). **Part 4** of the Commercial, Industrial and Retail Data Collection sheet incorporates an additional section to facilitate the gathering of rental data associated with leased properties.

Single Tenant Occupation. This relates to the lease details with a single tenant occupying the total building. Where possible all major boxes should be completed.

TENANCY DETAILS	
Tenant Name	Name on lease agreement
Business Name	Trading name can be useful in identifying the specific location of the tenancy (e.g., Mercury Drug). Tenants names are often not readily identified.
Use	Identifies the category for analysis
Area Leased	Area specific to the tenancy. The method of measurement is critical. A single method should be adopted for each category to have accurate analysis.
Rent	Rent being paid by the tenant. Some space can be subleased to another lessee. The rent for the occupied space and any head lease data should be recorded.

Rental data can be reported in a number of forms (weekly, monthly, etc.) Check the appropriate box applicable to the tenancy. |
| **Commenced** | Leases can run for extended periods. This date relates to the commencement of the current lease. |
| **Date current rent set** | Leases often include provisions to review the rental agreement during the course of a lease period. The date the current rent was set gives the most recent market evidence for analysis. |

TENANCY DETAILS	
Gross or Net	Reflects the terms of the agreement. Usually, rents are gross or inclusive of all costs associated with the building other than the payment of utility charges such as electricity, water, etc. Net rent reflects a base payment wherein the tenant is required to pay an additional amount to the owner to cover operational costs of the building (e.g., repairs and maintenance, security, common area cleaning, building insurance, etc.) Utilities are considered additional payment.
Tenant Works	In leased properties, tenants usually upgrade and fit out works to assist in business operations (e.g., retail fit out in the form of shelving and shop front). Any tenant works should be identified and quantified if possible.
Additional Items	It is not uncommon for the rental to include other items not restricted to the tenanted space. These items shall be identified and, if possible, quantified (e.g., car park, open storage area, etc.)

Multiple Tenants within a building is common for commercial properties. Part 4 concludes with a Multiple Tenancy Rental Schedule. The schedule incorporates all the features of the single tenant occupation table. The details will be recorded in a similar fashion.

Major commercial properties are often managed by an administrator who may maintain a tenancy schedule for the building and can assist in the completion of the schedule.

APPENDIX 3:
LGU Data Build Process Model

INTRODUCTION

The LGU Data Build Process Model discusses the step-by-step procedure in building up databases using the Valuation Database and Information System (VDIS). This document will guide the continuous collection and encoding of data to sustain the national real property transaction, rental / lease, building construction and machinery cost database.

This model was designed to ensure that processes are uniform and data are consistent and reliable. A sub-process is also introduced that will integrate the model into the day-to-day operations of the Assessor's Office, with the staff having specific assignments in the work flow.

A DOF Order is anticipated to be issued mandating LGUs to adopt the DCS and VDIS as tools in preparing the SMV.

DATA BUILD PROCESS IMPLEMENTATION NOTES

The model is composed of six sub-processes and each will be discussed in detail in the succeeding sections of the manual. The Data Build Process Model describes the procedures in recording the transactions as they occur, conducting field validation, and data processing and encoding into VDIS.

Currently, sales transactions are documented in the Assessor's Office as applications for Tax Declarations (TD) for new Transfer Certificate Titles (TCT). LGUs must then validate these sales transactions by interviewing property owners based on the items required in the data collection sheet (DCS).

The procedure described above is a required step in the model. However, not all transfers of property are sales transactions. Thus, sales transactions must be separated for encoding. Encoding of other property transactions (non-sale) is discussed in the VDIS Users' Manual.

Data validation or field inspection can be conducted regularly (weekly or monthly), depending on volume transactions, by the Appraisal Section / Division of the Assessor's Office (CAO) or Tax Mapping Division.

Step 1 In preparation for field validation, sort the list of sales transactions by geographical area. Then, attach the reference record to the data collection sheet as additional reference (TD, FAAS, ORF). This can be done by the Records Section / Management/ Division.

Step 2 The pre-defined process marked as step "2" is a task of the Appraisal Section/Division or Tax Mapping Division. There are established methods and techniques to collect data efficiently from property owners and to validate the same by doing ocular inspection. The person in charge may go to the Tax Mapping Section / Division to locate properties on the Section Maps as guide.

Step 3 In pre-defined process marked as step "3", sales transaction records are reviewed and suitable market evidence are filtered by the staff from the Appraisal Section/Division. The exercise here simply separates value records for analysis. Nonetheless, all records shall be encoded into the system.

Step 4 *This is an optional step. If the LGU has printed (hand-drafted) or digital maps that the appraisal section/division can use, then the specific location of property (land parcel) may be plotted on the maps in the Tax Mapping Division as graphical or geographic presentation of the location of the property sales transaction. This will serve as further documentation and support for group analysis as intended by this step. Otherwise, this step may be skipped.*

Step 5 Some collected data are secondary information coming from Tax Declaration, Owner's Record Form or the FAAS or Transfer Certificate Title. In Step 5, these information are manually recorded in the DCS.

Step 6 The staff of the sale transaction records should maintain a logbook to record the flow of sheets for encoding. The logbook should at least have the names of the staff who "received" and "returned" the document, the date and time when the sheets were received and returned, the record numbers and other details. Maintaining records should at least keep accountability of record handling and performance of encoders.

Notice the broken arrow going to the function of the Assessor's Record Section. It is recommended that any discrepancy on the Assessor records (TD, FAAS, ORF) against actual appearance of the property based from ocular inspection should also be referred back to the original document with the necessary adjustments made. Each LGU has certain pre-defined procedure to follow.

Step 7   This step is discussed in detail in the VDIS Users' Manual. The person in charge of the VDIS should be competent in operating and managing the system and in maintaining the databases.

Step 8   The staff in charge to validate encoded data should know and be experienced in property appraisal. Specifically, the person should be familiar with the appraisal terms, the data items in the DCS, the field interviewing methods and techniques, and other field activities.

Step 9   *This is optional. If encoding errors were found in Step 8, then that particular sales record should be corrected in the VDIS.*

Step 10   After encoding, validating and amending the sales record, the DCS should be compiled and returned to the Assessor's Record Management/Division/ Section for archiving. Record the date and time the DCS were returned in the logbook referred to in Step 6. Other control measures may be used to indicate that the DCS has been encoded or recorded such as stamping with "Recorded".

For purposes of monitoring and ensuring that the listed sales transactions are encoded into the system, the assigned person shall match the listed sales transaction against forwarded records.

Step 11   Encoding should be completed at this stage. Thus, users may generate reports from the VDIS regularly or as needed. Please refer to user's manual for more details.

Step 12   Data Analysis by the Appraisal Section / Division.

SUMMARY OF ROLES AND RESPONSIBILITIES

Assessor's Office Records Section/Management/Division – responsible for maintaining sales transaction records (soft and hard copies), including:

- Recording of real property sales transaction on a digital file (MS Excel).

- Preparation of blank Data Collection Sheets (DCS) to be attached to the TD, FAAS or ORF of properties.

- Regular submission of DCS (with attached TD, FAAS, etc.) to the Appraisal Section/Division or Tax Mapping Division for field inspection.

- Preparation of "Abstract of Sale" every quarter using the list of sales transaction as reference.

- Maintenance of logbook to monitor outgoing documents (sales transaction) for field validation, and the documents returned (DCS, copy of TD, FAAS or ORF) after encoding.

- Ensures that documented sales transaction number and details are consistent with the logbook of outgoing and returned documents as discussed in Steps 6 and 10.

- Secure the archive of sales transaction DCS.

Assessor's Office Appraisal Section / Division – particular persons in charge should have direct involvement with the appraisal function and the actual data collection in the field, responsible for data gathering and completing the DCS, for classifying transactions suitable as market evidence, and for analyzing data. The persons in charge should be directly involved in appraisal activities and actual data collection. Specifically, this division will:

- Acquire copies of data collection sheet with the attached TD, FAAS or ORF.

- Conduct field inspections, validation, interviews or other data gathering methods to complete the data collection sheets and photo documentation of the inspected properties.

- Filter sales data suitable as market evidence. The result would be a uniform classification system that complies with the concepts and standards described in the MAG and the PVS.

- Coordinate with and update the Records Sections on the results of field inspections, and the Tax Mapping Section on the status of properties with respect to location or changes in the physical characteristics of the inspected properties.

- Record outgoing DCS for encoding. The staff must ensure that the DCS and its attachments must be complete and received by the encoder.

- Regularly conduct inventory of sales data and routine analysis to ensure that the data is complete and useful. The staff in charge may call the Records Section/Division to recommend improvements on the process, changes in data sets collected and defining new techniques or methods.

- Collect the encoded DCS from the encoders, check if the documents are complete, and return the documents back to the records section for archiving.

Assessor's Office Tax Mapping Division

- Update section maps of the current daily transactions

- Assign Property Index Number (PIN) on TDs of current transactions

Assessor's Office VDIS Operator (or IT Staff) – responsible for ensuring that data can be stored and processed in the application software and generate the specified outputs. Specifically, the IT staff will:

- Get the accomplished DCS with attached TD, FAAS or ORF from the Appraisal Section / Division for encoding.

- Encode the DCS into the VDIS and check the consistency of encoded data with the DCS.

- Perform functional testing of updated VDIS application and ensure that the application is ready for data build up, processing, and generation of output data.

- Back up data regularly for on- and off-site storage and send digital copy to the BLGF central office for processing and archiving.

- Conduct regular maintenance check / work on the hardware and other devices where the VDIS is running.

- Responsible for Systems, Network, Database Administration of VDIS.

MONITORING AND EVALUATION

A monitoring and evaluation plan has been built-in within the model to ensure that the processes are followed and the objectives are met.

The M&E components are described in the following steps or procedures:

- After completing Step 6, a report on the results of field validation is submitted to the Assessor's Records Section to update the TD, FAAS or ORF.

- The data validation described in Step 8 was included in the process to ensure that the data in the DCS matches the encoded data.

- *In Step 10, the encoded DCS must be compared with the list of sales/transfer transactions listed in the Assessor's logbook. Check if the collected data matches the entries in the logbook. Note that not all the entries in the Assessor's logbook are sales transactions.*

- The results of data analysis in Step 12 would measure the sufficiency and relevance of the data. Based on the findings, the data user could provide inputs on how the data may be more useful and how the system can be further improved.

SMV PREPARATION WORK FLOW DIAGRAM IMPLEMENTATION NOTES

This work flow describes the how the VDIS and the Data Build Process Model may be integrated into the tasks of the SMV Team. The diagram will guide the staff in knowing the applications of the sub-processes involved in the different stages of building data.

In the diagram, the SMV Team first adopts/develops the DCS (residential, commercial, etc.).

Then, accomplished DCS will be trained on data gathering and interview techniques in accordance to the item requirements in the DCS. Thereafter, the data collectors will be deployed to the different geographical areas to gather data.

The data collected shall be sent to the SMV team for processing (review and editing, sorting, recording, etc.). Subsequently, the processed data will be encoded into the VDIS based on the "data build procedure".

Lastly, the data will be analyzed to provide baseline data for valuation of properties in a specific geographic area.

LGU ASSESSOR WORK FLOW DIAGRAM "IMPLEMENTATION NOTES"

The data collection activities may continue even after SMV preparation is complete. To ensure sustainability of the database, a workflow is introduced that can be integrated within the operation of the LGU Assessor.

The diagram shows the LGU as the last agency a property owner would need to transact with to complete his/her real property sale. The LGU processes new Tax Declarations to reflect the identity and details of the new property owner (transfer), which can be an opportunity to create/update records of sales transaction in the VDIS.

In this case, when the owner comes to the LGU to get a new Tax Declaration of their property, a representative from the Assessor's Office, with background on data collection/interview, shall interview the property owner and translate the information on the data collection sheet. The process may continue until the said new TD document is released to the property owner.

After carefully validating the information in the DCS, the document is forwarded to the VDIS operator for encoding (follow pre-defined process). Thereafter, the document would be marked/ stamped "Recorded".

All LGUs issue new TDs for new property owners. If the LGU Assessors Office makes this recording of sales transaction a part of their standard operating procedure, then this will provide limitless sales transaction data. The LGU, being one of the main source of data, is capable of continuously updating the sales transaction database.

LGU REAL PROPERTY SALES TRANSACTION DATA BUILD PROCESS

Assessor Record Section/ Division	Assessor Appraisal Section/ Division	Tax Mapping Division

Sale Transaction of Real Property in LGU is recorded as property transfer occur

Sort sale transaction to collect and attach copy of record of property (TD, FAAS, ORF, etc)

Pre-Defined Process

Collection of Data from Field & Validation thereof

Pre-Defined Process

Classification of data whether they are "suitable or non-suitable" for market evidence

Is the tax map available?

NO

YES

Manually encode the missing information on the data collection sheet from TD, FAAS, ORF, etc

Update Section Maps

Pre-Defined Process

Update properly details at the Record Section based on the actual field validation conducted in step 2

Record Controller Log sales transaction for tracking of outgoing record

1

LGU REAL PROPERTY SALES TRANSACTION DATA BUILD PROCESS		
Assessor Record Section/ Division	Assessor Appraisal Section/ Division	Assessor VDIS operator

1

Pre-Defined Process

Encode data unto the database using the VDIS

Validate data on sheet and data encoded unto the VDIS

NO — Are Data accurate? — YES

Amend data on the VDIS → Record Controller: Log return sales record for tracking of returning record

Acquire copy of logged record from the Database then match VS the sale records list then archive

Pre-Defined Process

Data Analysis

Pre-Defined Process

Make a report by demand or submit a copy to Appraisal Section/Regional Office

From Data Collection, Encoding to VDIS, to Data Analysis			
SMV Team	Field Validation/ Enumerator	VDIS Operator	VDIS

Adopt Data Collection Form → Training on Data Collection

Training on Data Collection → Field Work Data Collection

Field Work Data Collection → Forms Review and Validate

Encode Data from Form — → Data Stored

Data Analysis

Reports for Analysis
1. Property Sales Details
2. Compare Sale Price and Market Value
3. Sales Records by geographic area, etc
4. Land Value Model

Creating/Updating Sale Record for a Property

RoD	Property Owner	Assessors	VDIS

In the Sale of Property and during processing of transfer, RoD issues Certified copy of old TCT

Property owner carries document to Assessor's Office for application of new TDData

Data Stored

Interview property owners to fill out Data Collection Sheet

Field Validation of Property (if necessary)

Create/Update Sale Record for the Property

Stamp Document as "Recorded"

Process TD application, then issue new TD

RoD issues new TCT

Property Owner has new TCT and TD

APPENDIX 4:
TYPES OF CONSTRUCTION

For purposes of this Guidebook and to be consistent with the provisions of the Building Code, all buildings shall be classified or identified according to the following types:

Type I	Buildings shall be of wood construction. The structural elements may be any of the materials permitted as follows: *Nipa* houses and similar structures fall under this type.
Type II	Buildings shall be of wood construction with protective fire-resistant materials and one-hour fire resistive throughout: Except, that permanent non-bearing partitions may use fire-retardant treated wood within the framing assembly with one-hour resistivity. 1. Third group wooden structural framings, floorings and sidings, and G.I. roofing but structural members are substandard. 2. Third group wooden structural framings, floorings and sidings and G.I. roofing.
Type III	Buildings shall be of masonry and wood construction. Structural elements may be any of the materials permitted by the said National Building Code: Provided that the building shall be one-hour fire-resistive throughout. Exterior wall shall be of incombustible fire-resistive construction. 1. Third Group wooden structural framings, floorings and sidings, and G.I. roofing, but structural members are substandard. 2. Third Group wooden structural framings, floorings and sidings, and G.I. roofing. 3. First group wooden post, girders, girts, window sills and head, *apitong* floor joists and roof framing, *tanguile* floorings and sidings, and G.I. roofing. 4. First group wooden structural framings, floorings and walls on the first floor, and tanguile walls on the second floor, and G.I. roofing. 5. First group wooden structural framings, walls and G.I. roofing.

Type IV	Buildings shall be of steel, iron, concrete or masonry construction. Walls, ceiling, and permanent partitions shall be of incombustible fire-resistive construction: Except, that permanent non-bearing partitions of one-hour fire-resistive construction may use fire-retardant treated wood within the framing assembly. 1. Concrete columns, beams and walls – but wooden floor joists, flooring and roof framings and G.I. roofing; even if walls are in CHB, kitchen and T & B are reinforced concrete slabs. 2. Concrete columns and beams – but hollow block walls and G. I. roofing.
Type V	Buildings shall be fire-resistive. The structural elements shall be of steel, iron, concrete, or masonry construction. Walls, ceiling, and permanent partitions shall be of incombustible fire-resistive construction. 1. Structural steel and reinforced concrete columns and beams. 2. Columns beams, walls, floors and roofs are all reinforced concrete. 3. Walls are hollow blocks reinforced concrete or tile roofing.

Sample Extra Items as Component Parts of Buildings:

1. Carport ___ % of BUCC plus additional cost for finishing
2. Mezzanine ___ % of BUCC plus additional cost for finishing
3. Porch ___ % - ___ % of BUCC plus additional cost for finishing
4. Balcony ___ % of BUCC plus additional cost for finishing
5. Garage ___ % of BUCC
6. Dirty Kitchen ___ % of BUCC
7. Terrace
   Covered ___ % of BUCC
   Open ___ % of BUCC

8. Deck Roof
   Penthouse ___ % - ___ % of BUCC plus additional
   Covered ___ % of BUCC
   Open ___ % of BUCC

9. Basement:
   Residential ___ % of BUCC
   High Rise Building ___ % of BUCC

10. Pavements
    a. Pavements/Basketball Court/Roads Php _____/m2
    b. Tennis Court:

Concrete:

10 cm thick	Php _____	/m2
15 cm thick	Php _____	/m2
20 cm thick	Php _____	/m2

Asphalt:

1 course	Php _____	/m2
2 courses	Php _____	/m2
3 courses	Php _____	/m2

11. Floor Finishes:

a.	Marble Slabs	Php _____	/m2
b.	MarbleTiles	Php _____	/m2
c.	Crazy Cut Marbles	Php _____	/m2
d.	Granolithic	Php _____	/m2
e.	Narra	Php _____	/m2
f.	Yakal	Php _____	/m2
g.	Narra/FancyWood Tiles	Php _____	/m2
h.	Ordinary Wood Tiles	Php _____	/m2
i.	Vinyl Tiles	Php _____	/m2
j.	Washold Pebbles	Php _____	/m2
k.	Unglazed Tiles	Php _____	/m2
l.	Glazed white Tiles	Php _____	/m2
m.	Rubber Tiles	Php _____	/m2
n.	Marble Tiles	Php _____	/m2
o.	Cement Tiles	Php _____	/m2
p.	Granite	Php _____	/m2
q.	Glaze Colored Tiles	Php _____	/m2

12. Wallings:

a. Use the same rate for floor finishing in a,b,c,i and j as indicated above

b.	Double Walling		
	(Ordinary plywood)	Php _____	/m2
	(Narra paneling)	Php _____	/m2
c.	Glazed White Tiles	Php _____	/m2
d.	Glazed Colored Tiles	Php _____	/m2
e.	Fancy Tiles	Php _____	/m2
f.	Synthetic Rubble	Php _____	/m2
g.	Bricks	Php _____	/m2
h.	Mactan Stones	Php _____	/m2
i.	Building Board (Hardiflex)	Php _____	/m2
j.	Cement Bonded Board	Php _____	/m2
k.	Green Board (Bagasse)	Php _____	/m2

13. Special panels:
    I. Doors
        a.   Clear glass w/ aluminum frame   Php _____/m2 (sliding)
        b.   Clear glass w/ aluminum frame   Php _____/m2 (not sliding)
        c.   Glass w/ wooden frame   Php _____/m2 (fixed)
        d.   Tinted glass, add   Php _____/m2
        e.   Roll up Door (steal)   Php _____/m2
        f.   Accordion Door (steal)   Php _____/m2
        g.   Stranded Steel Door   Php _____/m2
        h.   Panel Door (Hardwood)   Php _____/m2

    II. Windows
        a.   Glass Jalousies   Php _____/m2
        b.   Clear Glass w/ aluminum frame   Php _____/m2
        c.   Clear Glass w/ aluminum frame   Php _____/m2 (not sliding)
        d.   Clear Glass w/ aluminum frame   Php _____/m2
        e.   French window w/ steel frame   Php _____/m2
        f.   French window w/ wooden frame   Php _____/m2
        g.   Tinted glass, add   Php _____/m2

14. Ceiling: Below Concrete Floor
        a.   Ordinary Plywood   Php _____/m2
        b.   Luminous Ceiling   Php _____/m2
        c.   Acoustic   Php _____/m2
        d.   Special Finish   Php _____/m2
        e.   Building Board (Hardiflex)   Php _____/m2
        f.   Cement Bonded Board   Php _____/m2
        g.   Green Board (Bagasse Board)   Php _____/m2

15. Fence:
        a.   Wood   Php _____/m2
        b.   CHB
             10 cm thick   Php _____/m2
             15 cm thick   Php _____/m2
             20 cm thick   Php _____/m2
        c.   Reinforced Concrete   Php _____/m2
        d.   Steel Grill   Php _____/m2
        e.   Interlink Wire   Php _____/m2
        f.   Steel Gates
             Plain Steel Sheet   Php _____/m2
             Plain Steel Sheet & Iron Bars   Php _____/m2

16. Special Roofings
   a.   Asphalt Roofing Tiles   Php _____/m2
   b.   Ceramics Roofing Tiles   Php _____/m2
   c.   Placa Romana   Php _____/m2
   d.   Asbestos   Php _____/m2
   e.   Econospan Roof System   Php _____/m2
   f.   Cement Bonded Board   Php _____/m2

17. Excess Heights
   a.   Residential and Commercial Add ___% of Base Unit Value for every meter in excess of ___ meters.
   b.   Bodega and Factory   Add ___% of Base Unit Value for every meter in excess of ___ meters.

18. Extra Toilet and Bath
   a.   Floor area of 3m2 more or less
        Ordinary Finish   Php _____/m2
        Special Finish   Php _____/m2

   b.   Floor area of more than 3m2
        Ordinary Finish   Php _____/m2
        Special Finish   Php _____/m2

19. Foundation   Php ____ x total floor area less floor area of 1st and 2nd piles driven

20. Piles   Php ____ per linear meter of pile driven

21. Painting   If the building is printed, add ___ % of the Base Unit Value.

22. Second-Hand Materials   If the building has used second-hand materials, deduct ___ % from Base Unit Value.

APPENDIX 5
SAMPLE ORDINANCE APPROVING THE SMV

ORDINANCE NO. _____

AN ORDINANCE APPROVING THE SCHEDULE OF MARKET VALUES OF ALL REAL PROPERTY INCLUDING OTHER STRUCTURES AND AGRICULTURAL LANDS AS THE BASIS IN THE GENERAL REVISION OF REAL PROPERTY ASSESSMENTS IN THE CITY IN ACCORDANCE WITH R.A. No. 7160 OTHERWISE KNOWN AS THE LOCAL GOVERNMENT CODE OF 1991 AND TO TAKE EFFECT BEGINNING CALENDAR YEAR _____ .

Sponsor: Committee on Ways and Means

Be it enacted by the Sangguniang Panglunsod of the City, that:

SECTION 1. - **Title** - The title of this Ordinance shall be known as " **An Ordinance Revising the Schedule of Market Values of All Real Property Including other Structures and Agricultural Lands in the City."**

SECTION 2. - This Schedule of Market Values of Real Property including other Structures and Agricultural Lands shall be the basis of the general revision of assessments and property classification within the territorial jurisdiction of the City for the General Revision Year _____ and thereafter unless amended or repealed.

Schedule of Base Unit Market Values for all Residential and Commercial Lands by Classification and by Barangays:

SCHEDULE OF BASE UNIT MARKET VALUES FOR RESIDENTIAL, COMMERCIAL AND INDUSTRIAL LANDS

STREET/ SUBDIVISION	VICINITY	2001		2008	
		BASE VALUE	SUB-CLASS	BASE VALUE	SUB-CLASS
ABELLLA 001					
Abella Street	Gen. Luna St. J. Hernandez Ave.	12,900	C-1	20,000	C-2
	J. Hernandez Ave. - 1st 100m.	4,100	C-4	15,000	C-3
	After 100m - Cnr Felix Plazo St.	4,100	C-4	12,500	C-4
	Cnr F. Plazo St.-Naga/Camaligan Bdry	1,200	R-1	3,500	R-1
Bayawas Street	Abella Street-Looban 8	1,200	R-1	3,500	R-1
Felix Plazo Street	Abella St.- Igualdad Boundary	960	R-2	3,500	R-1
	All inner lots			1,500	R-5

STREET/ SUBDIVISION	VICINITY	2001		2008	
		BASE VALUE	SUB-CLASS	BASE VALUE	SUB-CLASS
J. Hernandez Ave.	Prieto St.-P. Burgos St.	9,700	C-2	20,000	C-2
General Luna St.	Prieto St.-P. Burgos St.	12,900	C-1	25,000	C-1
P. Burgos Street	Gen. Luna St.-J. Hernandez	12,900	C-1	25,000	C-1
Prieto Street	J. Hernandez St.-Gen. Luna St.	12,900	C-1	20,000	C-2
BISALA		720	R-3	1,500	R-5
All Blighted Areas				300	R-8

SECTION 3 - Schedule of Base Unit Market Values for Urban Lands

	Sub-Class	BUMV
A. Residential		
1st Class	R-1	3,500.00
2nd Class	R-2	3,000.00
3rd Class	R-3	2,500.00
4th Class	R-4	2,000.00
5th Class	R-5	1,500.00
6th Class	R-6	1,000.00
7th Class	R-7	500.00
8th Class	R-8	300.00
9th Class	R-9	200.00
10th Class	R-10	100.00
B. Commercial		
1st Class	C-1	25,000.00
2nd Class	C-2	20,000.00
3rd Class	C-3	15,000.00
4th Class	C-4	12,500.00
5th Class	C-5	10,000.00
6th Class	C-6	7,500.00
7th Class	C-7	5,000.00

SECTION 4. - Schedule of Base Unit Market Values for Agricultural Lands, Perennial Plants and Fruit Bearing Trees

4.1. Agricultural Land (Php per Hectare)			
CLASSIFICATION	SUB CLASS	2001 SMV	2008 SMV
1) Irrigated Riceland	1st	48,000	256,000
	2nd	30,000	225,000
	3rd	90,000	164,000
	4th	76,000	131,000

4.1. Agricultural Land (Php per Hectare)			
CLASSIFICATION	SUB CLASS	2001 SMV	2008 SMV
2) Unirrigated Riceland	1st	57,000	99,000
	2nd	49,000	85,000
	3rd	41,000	71,000
3) Riceland Upland	1st	39,000	68,000
	2nd	33,000	57,000
	3rd	26,000	45,000
4) Banana Land	1st	79,000	244,000
	2nd	59,000	183,000
	3rd	40,000	122,000
5) Cacao Land	1st	112,000	159,000
	2nd	83,000	119,000
	3rd	42,000	60,000
	4th	28,000	40,000
6) Coconut Land	1st	90,000	236,000
	2nd	77,000	203,000
	3rd	39,900	101,000
7) Coffee Land	1st	113,000	218,000
	2nd	85,000	163,000
	3rd	43,000	82,000
	4th	28,000	54,000
8) Corn Land	1st	79,000	244,000
	2nd	59,000	183,000
	3rd	40,000	122,000
9) Orchard Land	1st	192,000	434,000
	2nd	171,000	391,000
	3rd	134,000	304,000
	4th	115,000	260,000
10) Rootcrop Land	1st	121,000	360,000
	2nd	73,000	218,000
	3rd	26,000	76,000
11) Sugar Land	1st	128,000	330,000
	2nd	120,000	298,000
	3rd	93,000	221,000
	4th	52,000	132,000
Other Kinds of Agricultural Land (Without productivity classification)			
12) Cogon Land		12,000	20,000
13) Grazing or Pasture Land		12,000	20,000

4.1. Agricultural Land (Php per Hectare)			
CLASSIFICATION	SUB CLASS	2001 SMV	2008 SMV
14) Swampy Land		12,000	20,000
15) Second Growth Forest		12,000	20,000

Perennial Plants and Fruit Bearing Trees

KIND	Class and Base Unit Market Value			
	1st	2nd	3rd	4th
A. Perennial Plants				
Banana, per hill	70	50	30	-
Pineapple, per hill	60	40	30	
B. Fruit Bearing Trees				
Citrus a) Lemon	270	210	130	100
b) Sampaloc	610	500	300	240
Coconut	440	370	270	210
Coffee	300	240	100	60
Cacao	400	300	130	100
Atis	210	160	100	90
Avocado	160	130	90	60
Breadfruit (Rimas/Calamansi)	210	160	100	90
Caimito	160	130	90	60
Camias (iba)	160	130	90	60
Chico	340	270	160	130
Duhat	160	130	90	60
Guyabano	160	130	90	60
Guavas (bayabas)	160	130	100	60
Gumian	340	270	160	130
Lanzones	340	270	160	130
Macopa	160	130	90	60
Mango a) Payo	160	130	90	60
b) Carabao	340	270	160	130
Mangosteen	160	130	90	60
Nangka (Jackfruit)	210	160	100	90
Pepper, Black	160	130	90	60
Pili	340	270	160	130
Pomelo (Suha/Lukban)	210	160	100	90

KIND	Class and Base Unit Market Value			
	1st	2nd	3rd	4th
Mangosteen	160	130	90	60
Nangka (Jackfruit)	210	160	100	90
Pepper, Black	160	130	90	60
Pili	340	270	160	130
Pomelo (Suha/Lukban)	210	160	100	90
Sampaloc	160	130	90	60
Santol	210	160	100	90
Sineguelas	210	160	100	90
Tambis	160	130	90	60
Tiesa (Chesa)	160	130	90	60
Casoy (Cashew)	160	130	90	60

SECTION 5. - Schedule of Building Cost (in Peso)

TYPES OF BUILDING	(1) One Family Dwelling *(Temporary/ Makeshift)*	(2) Boarding House Lodging House Convent Funeral Parlor Dormitory	(3) ACCESSORY BUILDING Garage Quarters Laundry House Annex Guardhouse	(4) Two Family Dwelling Multiple Dwelling Rowhouse Townhouse Duplex, Apartel, Apartment Bldg.
TYPE V				
A	11,000	8,100	8,300	7,700
B	10,000	7,200	7,300	7,000
C	9,200	6,900	7,100	6,800
TYPE IV				
A	8,800	6,700	6,900	6,600
B	8,300	6,300	6,700	6,200
TYPE III				
A	6,200	6,000	6,000	5,500
B	5,400	5,800	5,800	5,300
C	5,200	5,100	5,500	4,800
D	4,500	-	4,700	4,300
TYPE II	2,000	-	-	-
TYPE I	1,500	-	-	-

TYPES OF BUILDING	(5) BUILDINGS (Below 5-storey) Market, Shopping Center, Restaurant, Bank, Club House, Office Bldg., Condominium	(6) ASSEMBLY HOUSE Theatre Church,Chapel Gymnasium Coliseum Convention Hall Pavilion	(7) Hotel Hospital Motel	(8) SCHOOL BUILDING Multi-purpose building
TYPE V				
A	11,600	10,700	10,700	7,700
B	10,500	10,100	10,100	6,900
C	10,000	9,400	9,400	6,700
TYPE IV				
A	9,300	9,000	9,000	-
B	9,000	8,500	8,500	5,700
TYPE III				
A	-	-	-	5,200
B	-	-	-	4,600
C	-	-	-	-
D	-	-	-	-
TYPE II	-	-	-	-
TYPE I	-	-	-	-

TYPES OF BUILDING	(9) INDUSTRIAL BUILDING Factory Warehouse Storage, Bakery Rice Mill, Shop	(10) RECREATION Bowling Lanes Pelota Court (covered) Cockpit Area Basketball Court (covered)	(11) SHED Terminal bay Area Carpark	(12) GAS REFILLING STATION (Refilling Area)
TYPE V				
A	5,200	6,400	4,600	5,400
B	4,600	-	3,400	4,600
C	4,300	5,600	3,000	-

TYPES OF BUILDING	(9) INDUSTRIAL BUILDING Factory Warehouse Storage, Bakery Rice Mill, Shop	(10) RECREATION Bowling Lanes Pelota Court (covered) Cockpit Area Basketball Court (covered)	(11) SHED Terminal bay Area Carpark	(12) GAS REFILLING STATION (Refilling Area)
TYPE IV				
A	4,200	6,000	2,800	-
B	3,900	4,700	-	-
TYPE III				
A	-	-	2,600	-
B	-	-	-	-
C	-	-	2,300	-
D	-	-	-	-
TYPE II	-	-	-	-
TYPE I	-	-	-	-

TYPES OF BUILDING	(13) Swimming Pool Bathhouse
TYPE V	
A	2,200
B	-
C	-
TYPE IV	
A	-
B	-
TYPE III	
A	-
B	-
C	-
D	-
TYPE II	-
TYPE I	-

SECTION 6. - Schedule of Ordinary Shed other than type (11) & (12)

	Specification		Cost/m²
1	Concrete Foundation Concrete Flooring Wooden Post GI Roofing		1,300.00
2	Concrete Foundation Gravel Fill Floor Surface Wooden Post GI Roofing		1,050.00
3	Earth Fill Sub-base Gravel Fill Floor Surface Wooden Post Nipa Roofing		800.00

STALL

Add 10% of BUCC of sheds (Type (11) & (12)) and ordinary type that correspond to the classification of the stall to be assessed.

SCHEDULE OF PAVEMENT, FLOOR, SLAB

	Specification	Cost/m²
1	4" thick Concrete w/12mm- Temp. bars at 0.4m b.w.	500.00
2	6" thick Concrete w/12mm- Temp. bars at 0.4m b.w.	600.00
3	Tennis Court	900.00
4	6" thick Heavy Concrete w/12mm- Temp. bars at 0.4m b.w.	900.00
5	Asphalt	
	5/8" thick	210.00
	1/2" thick	260.00
	2 ½" thick	380.00

F E N C E

	SPECIFICATION	Cost/m²
1	½"x2"x2" bar steel grilles w/ RC Columns & Beams	3,200.00
2	¼"x1½"x1½ ∠bar steel grills w/ RC Columns & Beams	2,500.00
3	4" thick CHB FENCE per sq.m. w/RC Columns & Beams	1,800.00

SECTION 7. - Addition and Deduction Factor: Extra Items as component part of Buildings:

MEZZANINE	- 50% BUCC+Finishing Cost
PORCH	- 40% -do-
BALCONY	- 45% -do-
GARAGE	- 45% BUCC
TERRACE	
Covered	- 40% BUCC+Finishing Cost
Open	- 25% -do-
DECK ROOF	
Penthouse	- 70% -do-
Covered	- 60% -do-
Open	- 30% -do-
BASEMENT	
Residential	- 100% -do-
High Rise Bldg.	- Plus 120%-do-
PAVEMENT	
4" thk. Concrete	- 500.00 per square meter
6" thk. Concrete	- 600.00 -do-
6" thk. Heavy Concrete	- 900.00 -do-
Asphalt	
5/8" thick	- 210.00 -do-
1/2" thick	- 260.00 -do-
2 ½" thick	- 380.00 -do-

FLOOR FINISHES
        Marbles   - 700.00 per sq.m.
        Granolithic   - 720.00   -do-
        Wood Tiles   - 300.00   -do-
        Vinyl Tiles   - 320.00   -do-
        Unglazed Tiles   - 290.00   -do-
        Washout Pebbles   - 250.00   -do-

WALLS FINISHES
(Use a, b, c, of floor finishing as indicated above)
        Double Walling, ordinary/Danarra   - 360.00   -do-
        Glazed Tiles   - 520.00 per sq.m.
        Bricks   - 305.00   -do-

CEILING
        Ordinary Plywood   - 280.00 per sq.m.
        Wooden Board   - 350.00   -do-
        Foam Insulator
            ¼" thick   -   80.00   -do-
            ½" thick   - 120.00   -do-
        Acoustic   - 580.00   -do-
FENCE
        Wood   - 280.00   -do-
        4" thick Concrete   -1,800.00   -do-
        ¼"x1½"x 1½" Steel Grilles   -2,500.00   -do-
        ½"x2"x2" Steel Grilles   -3,200.00   -do-
SPECIAL PANEL
        Glass w/ Wooden Frame   - 975.00 per sq.m.
        Glass w/ Aluminum Frame   -2,000.00   -do-
        Accordion Door Cover
             metal   -2,800.00   -do-
             stainless   -1,700.00   -do-
HEIGHT
        Excess in Height
             Commercial   -Add 20% of BUCC for every meter in excess of
                                          three (3) meters.
             Bodega & Factory   -Add 20% of BUCC for every meter in excess of
                                          three (3) meters.

        Deficiency in Height
             Residential & Commercial   -Deduct 20% of BUCC for every meter deficiency
                                         of 3m height.
             Bodega & Factory   -Deduct 15% of BUCC for every meter deficiency
                                         of 4.5m height.
CONCRETE GUTTER   -   600.00 per sq.m.
EXTRA T&B ORDINARY FINISH   -10,000.00 per unit
PAINTING   - Add 10% of Bldg. Cost if painted
SECOND HAND MATERIALS   - Deduct 10% from Bldg. Cost if
                                        2nd hand materials has been used.

FOUNDATION   - Plus 1,300 per sq.m. basic BUCC
PILES   - 500 per linear meter RC piles driven

SECTION 8. - Depreciation Allowance – A depreciation table developed below is hereby prescribed to rationalize the degree of maintenance, e.g., Poor, Average or Excellent.

No. Of Years	Type V	V-B	V-C	IV-A	IV-B	III-A&B	III-C&D	III-E	II-A*	II-B*	I*
Each of 1st 5 years	2.75	2.75	3	3.5	4	4.5	4.5	4.5	5	6	7.5
Progressive Depreciation	13.75	13.75	15	17.5	20	22.5	22.5	22.5	25	30	37.5
Each of 2nd 5 years	2.75	2.75	2.75	3.5	3.5	4	4	4.5	4.5	5	7
Progressive Depreciation	27.5	27.5	28.75	35	37.5	42.5	42.5	45	47.5	55	72.5
Each of 3rd 5years	2.5	2.5	2.5	3	3.5	3.5	4	4	4	4	5
Progressive Depreciation	40	40	41.25	50	55	60	62.5	65	67.5	75	*95*
Each of 4th 5 years	2	2.5	2.25	2	3	3	3.5	3.5	3.5	3.5	
Progressive depreciation	50	52.5	52.5	60	70	75	80	*82.5*	85	*85*	95
Each year after 20 Years	1	1.25	1.5	1.5	1.5	2	2	2	-	-	-
Residual (%)	25	25	25	20	20	15	15	15	15	15	5
Years to get to Residual	45	38	35	34	27	25	23	21	20	18	15

Indicates that building may have 'fully depreciated' and reached residual value prior to conclusion of 20 year period

For an excess in the above rate of annual depreciation, bigger rate may be applied in extra ordinary cases, that is, if properly presented and described as in the following instances: (1) Damage due to catastrophe (earthquake, fire, deluge); (2) Heavily damaged due to pest (e.g., termite); (3) Established defects in construction, (4) Obsolescence.

SECTION 9. – Miscellaneous Provisions:

9.1 - As a general rule, 100% base value per square meter on residential and commercial lands shall be applied to within the first strip fronting roads or streets, land beyond the standard depth, that is, 20m - 30m for residential shall be valued 80% for the 2nd strip, 60% for the 3rd strip, 40% for the 4th strip, and 20% for the 5th strip of the base value fixed for the road or street thereof for the remaining area, provided that the value per square meter for the last strip shall not be lower than the value per square meter of lots in the other street or of the interior lots as reflected in the Schedule of Base Market Value.

9.2 - For an abnormally low urban lands, a reduction from the base unit value may be allowed in the amount to the cost of filling-up of such land, provided that such

deduction shall not exceed 30% of the value of the lot subject to appraisal if it were normally filled or leveled.

9.3   -   Corner influence of 10% of the base unit value shall be added to residential and commercial lots situated at the corner of the streets or roads. Provided, that if the streets or roads have different base unit value, the higher value shall be used in the computation thereof. An alley or callejon shall not be considered for the adjustment thereof.

9.4   -   To arrive at a final value of agricultural land, the total base market value shall be multiplied by the percentage of adjustments as follows:

Type of Roads

Provincial or National Roads	- No deduction
For all weather Roads	- 3% deduction
Along dirt Road	- 6% deduction
For no road outlet	- 9% deduction

Type of Location

Distance in km to:	a) All-Weather Road	b) Local Trading Center (Poblacion)
0 to 1	0	+ 5%
over 1 to 3	2%	0%
over 3 to 6	4%	- 2%
over 6 to 9	6%	- 4%
over 9	8%	- 6%

9.5   -   Value adjustment based on factors not specified in this Schedule of Market Values (SMV), such as but not limited to shape, topography, and blighted status of the lands that affect the value of the property being assessed, shall be applied.

9.6   -   Building shall be generally classified and valued in accordance with the structural designs for which they were intended regardless of their actual use. Individual property adjustment pursuant to this approved SMV shall be enforced consistently.

9.7   -   In case of buildings, machinery and other structures already covered by existing assessment, the Reproduction/Replacement Cost New Less Depreciation (RCNLD) approach shall be applied.

9.8 - The appraisal of machinery for tax purposes shall be based on its actual cost to the owner when it was acquired which shall include the acquisition cost plus the cost of freight, insurance, bank and other charges, brokerage arrastre and handling, duties and taxes (if imported). The cost of inland transportation, handling, and installation charges at the present site are likewise included.

9.9 - For purposes of assessment, a depreciation allowance shall be made for machinery at a rate not exceeding five (5%) percent of its original cost or its replacement or reproduction cost, as the case may be, for each year of use: Provided, however, that the remaining value for all kinds of machinery shall be fixed at not less than twenty (20%) percent of such original, replacement, or reproduction cost for as long as the machinery is useful and in operation.

9.10 - As a general rule, the classification, appraisal, and assessment of real property for taxation purposes, shall be governed by the provisions of R. A. No. 7160 and its implementing rules and regulations and other existing laws and rules issued by the Department of Finance through the Bureau of Local Government Finance and the Sangguniang Panglunsod.

SECTION 10. – Applicability of the Schedule – Real property shall be valued for taxation purposes on the basis of this Schedule of Market Values prepared for the City. As far as properly applicable, such schedule shall be controlling, except where the property to be assessed is not of the same kind as classified in this schedule, or where the value is not fixed. The same shall be valued at its market value independent of said schedule.

SECTION 11. – Assessment Level and Tax Rate – For purposes of this General Revision of Real Property Assessment and Classification, the Assessment Level to be applied to the Market Value of Lands to determine the Assessed Value in the City, shall be as follows:

- Residential Lands
- Commercial Lands
- Agricultural Lands
- Industrial Land
- Mineral Lands
- Timberland

      <u>SECTION 12.</u> – <u>**Scheme in Applying the Tax Due in relation to Increase in Market Value as a result of the General Revision of Assessment and Property Classification**</u>. – <u>To cushion the impact of the upward adjustment of the market value of the real property, and in consideration of the present condition of the national and local economy, the maximum increases in the tax based from the CY _____ real property tax due & collectible from real property owners shall be as follows:</u>

      SECTION 13. – **Repealing Clause** – All ordinances, rules and regulations or any part thereof contrary to or inconsistent with the provisions of this ordinance are hereby repealed, amended and/ or modified accordingly.

      SECTION 14. – **Separability Clause** – If for any reason or reasons, any part or provision of this ordinance is held invalid or unconstitutional, other parts or portions hereof which are not declared so or affected thereof shall continue to be in full force and in effect.

      SECTION 15. – **Effectivity** – This ordinance shall take effect upon its approval and three (3) publications in newspapers of local circulation.

      ENACTED. _____

    xxx   xxx   xxx

    WE HEREBY CERTIFY to the correctness of the foregoing ordinance.

                                        _____
                                Secretary to the Sangguniang Panglunsod

_____
City Vice Mayor and Presiding Officer

                           APPROVED:

                                        _____
                                            City Mayor

APPENDIX 6
PHILIPPINE TABLE OF ESTIMATED ECONOMIC LIVES FOR MACHINERY AND EQUIPMENT

**TABLE OF ESTIMATED USEFUL LIFE OF
PROPERTY, PLANT AND EQUIPMENT
(COA – for Financial Statements)**

**GUIDELINES FOR ESTIMATING DEPRECIATION BY THE
OBSERVED CONDITION METHOD**

Very Good Condition (80%-100%) – This term describes an item of machinery which are capable of being used to its fully specified utilization and for its designed purpose without being modified, and not requiring any repairs or abnormal maintenance at the time of inspection or within the foreseeable future.

Good Condition (55%-79%) – This term describes an item of machinery which has been modified or repaired and are being used at or near their fully specified utilization but the effects of age and/or utilization indicate that some minor repairs are required or that the item may have to be used to some lesser degree than its fully specified utilization in the foreseeable future.

Fair Condition (35%-54%) – This term describes those items which are being used at a point below their fully specified utilization because of the effects of age and/or application, and which require general repairs and some replacement of minor elements in the foreseeable future to raise their level of utilization or near their original specifications.

Poor Condition (11%-34%) – This term is used to describe those items which can only be used at a point well below their fully specified utilization, and it is not possible to realize full capability in their current condition without extensive repairs and/or the replacement of major elements in the very near future.

Scrap Condition (0%-10%) – This term is used to describe those items which are no longer serviceable and which cannot be utilized to any practical degree regardless of the extent of the repairs or modifications to which they may be subjected (beyond economical repair). This condition applies to items of equipment which have been used for 100% technologically or functionally obsolescent. Their value is represented by scrap value.

[Note that the last two categories should be subject to the requirements of Section 225 regarding the minimum 20% residual value if still in operation]

TECHNICAL WORKING GROUP

BUREAU OF LOCAL GOVERNMENT FINANCE

Ma. Presentacion R. Montesa, CESO III — *Executive Director,* BLGF
Valuation Component Manager, LAMP2

Jose Arnold M. Tan, CESO V — *Acting Deputy Executive Director,* BLGF Operations
Acting Director, Property Valuation Staff

Ma. Pamela P. Quizon — *Chief*, BLGF Local Revenue Enforcement Division
and *Team Leader*, LAMP2 SMV Reform Program

Mercy N. Santos — *Chief*, BLGF Real Property Assessment and
Examination Division and *Team Leader,* LAMP2
Valuation Standards Development

BLGF REGIONAL OFFICES

Eduardo L. Del Rosario — *Regional Director,* BLGF Region IV-A

Florencio C. Diño II — *OIC-Regional Director,* BLGF Region V

LOCAL GOVERNMENT UNITS

Engr. Ramon R. Albeus — *City Assessor,* Naga City

Gener R. Sison — *City Assessor,* Mandaluyong City

Soledad E. Samonte — *City Assessor,* Parañaque City

Carlos E. Cordero — *City Assessor,* Tacloban City

Ofelia G. Valencia — *City Assessor,* Kidapawan City

Jose L. Carreon, Jr. — *Assistant Provincial Assessor,* Nueva Vizcaya

LAMP2 COMPONENT 4 - TECHNICAL ADVISERS

John Leigh — *International Technical Adviser*

Paul Carr — *International Technical Adviser*

Oscar R. Baraquero — *National Technical Adviser*

Clement L. Rasul — *National Technical Adviser*

TECHNICAL AND EDITORIAL STAFF

LAMP2 COMPONENT 4 - PROPERTY VALUATION STAFF

Edmond M. Yee	*Valuation Specialist*
Raymond G. Libiran	*Valuation Specialist*
Rebecca A. Alburo	*Valuation Specialist*
Niño B. Alvina	*Project Management Specialist*
Kalikasan C. Cuevas	*Information, Education and Communication Specialist*
Hanzel F. Gapayao	*Information, Education and Communication Associate*
Joel A. Bacorro	*Project Development Officer*
Bernadette Carmela B. Magtaas	*Project Development Officer*
Canhermi O. Sampang	*Project Development Officer*